

BOTANICAL MOTIFS IN THE ROCK ART OF ZIMBABWE

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DECLARATION

I declare that this dissertation is my own, unaided work. It is being submitted for the Master of Science at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.



Stephen Wepener van den Heever

Johannesburg 10th September 2021

ABSTRACT

Botanical motifs are found in hunter-gatherer rock paintings throughout Zimbabwe, and to a lesser extent in other parts of southern Africa. However, even with plants being frequently mentioned in ethnographic material collected from San and hunter-gatherer societies in South Africa, Botswana, Lesotho, and Namibia, there has been a lack of engagement with plants in rock art research. In order to redress this I conduct the first thorough review to date of botanical forms and species in the rock art of Zimbabwe. This is achieved by a thorough analysis of literature on plants in southern African rock art, followed by the classifications and typologies used to identify and categorise botanical motifs recorded in Zimbabwe. These are informed by an extensive examination of ethnographic material concerning plants, and analysed through the lenses of the shamanistic model and the ‘New Animisms’. Botanical motifs are modelled on natural and supernatural plants including trees, tubers, fruit, leaves, and phytomorphs (plant-human/animal amalgamations). They are found in numerous contexts, frequently painted with specific motif types such as termites and formlings, antelope (tsessebe, kudu, roan and sable), birds (swifts and potentially red-billed queleas), ‘non-real’ creatures, and humans. These patterns of co-occurrence, I suggest, illustrate numerous and varied associations between these motif subjects and plants. I focus on five central themes: trees and their ability to transgress the boundary between the physical and spirit worlds; roots and tubers as potent underground metaphors; as well as rain; femaleness; and hunter-gatherer animistic ontologies relating to *botanical forms with personhood* and as a means to mediate relationships between human and other-than-human persons. In this way I hope to offer a more accurate understanding of the lives and beliefs of the peoples behind this treasure-trove of rock art.

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I dedicate this to the plants and all the things that grow.

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GLOSSARY, ORTHOGRAPHY, AND CONVENTIONS

Glossary

Cauliflory – The production of flowers [and fruit] on the trunk and branches of trees rather than at the ends of twigs (Hickey & King 2000: 7. My parentheses)

Fasciculated – arranged in clusters or bundles (Hickey & King 2000: 16)

Fusiform – spindle-shaped (Hickey & King 2000: 17)

Geophyte – An herbaceous plant that perennates by means of underground buds, e.g., bulbs, corms, etc. (Hickey & King 2000: 18)

Imparipinnate – Pinnate, with a terminal leaflet (Hickey & King 2000: 22)

Inflorescence – The arrangement of flowers on floral axis; a flower cluster (Hickey & King 2000: 22)

Palmate – Divided to the base into separate leaflets, all the leaflets arising from the end of the leaf stalk (Hickey & King 2000: 30)

Pellucid – not quite transparent but with some light passing through when held up to the light, e.g., of gland dots in the leaves of Rutaceae (Hickey & King 2000: 61)

Pinnate – Having separate leaflets along each side of a common stalk (Hickey & King 2000: 32)

Underground Storage Organ (USO) – includes bulbs, corms, rhizomes, tubers

Orthography of |Xam and Jul’hoǎn words used in text (McGranaghan 2012: 377–378. For a more complete orthography see Hollmann 2004)

| - the dental click. A dental or alveolar affricate (fricative), produced by sucking the tip of the tongue back from the teeth, as in English ‘Tsk, tsk’

|| - the lateral click. A lateral affricate (fricative), produced with the tongue on the roof of the mouth, releasing air between the tongue and one or other cheek, approximating the sound made to urge on a horse.

! - the palatal (cerebral, retroflex) click. An alveopalatal or palatal stop, produced by sharply pulling the tip of the tongue down from the hard palate, sounding much like an imitation of a cork pulled from a bottle.

‡ - the alveolar click. An alveolar stop, produced by sharply pulling the tongue away from the alveolar ridge, behind the teeth.

⦿ - the bilabial click. A bilabial stop or affricate, produced by releasing air between the lips, somewhat like a 'kissing' noise but without rounded lips.

X - is used to represent a guttural sound similar to the *ch* in 'loch',

ʃ - *sh*

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'Citations to Wilhelm Bleek's and Lucy Lloyds' original notebooks take the following form: LL.VIII.26.7826-7827. The first component of the entry represents the initials of the collector; either Wilhelm Bleek (WB) or Lucy Lloyd (LL). This is followed by a Roman numeral, which represents either a notebook number (in the case of Bleek's entries), or refers to a certain narrator (in the case of Lloyd's entries) in which case the next number corresponds to the notebook. The final part of the citation refers to the consecutively-numbered notebook pages, with ranges indicated as above. Verso notes are indicated with an apostrophe (e.g. LL.VIII.10.6892).'

All of these notebooks are online and reference the Digital Bleek & Lloyd: Digital Bleek and Lloyd n.d. Centre for Curating the Archive, Michaelis School of Fine Art, University of Cape Town. <http://lloydbleekcollection.cs.uct.ac.za>, site accessed 2019–2021. References for images from the Bleek and Lloyd Archive will be given as the either page number from Bleek and Lloyd 1911) or page link and image number from the online archive.

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CHAPTER 1 – INTRODUCTION

San and hunter-gatherer rock art¹ is comprised of a multitude of meaningful motifs, some of which are well understood and others understudied. Rock art research endeavours to understand and interpret these motifs to gain a better understanding of the peoples and cultures that produced them. In order to interpret these with any degree of accuracy and in a meaningful way, interpretations must align with their indigenous knowledge systems and world-views. This is primarily informed by ethnographic material recorded in the Kalahari, Northern Cape Province in South Africa, and the southern Maloti-Drakensberg as an analogy which is largely accepted in the field.

This dissertation concerns botanical motifs, image-types depicting plants or those with features of plants, in Zimbabwe. Early interpretations of plant motifs, conducted by colonialists, include paintings as decoration of rock shelters, paintings of landscapes, and art for art's sake. These interpretations were based off of a 'gaze-and-guess' approach, which proved to be not only incorrect but also Eurocentric and denying any symbolic and nuanced meanings. Later interpretations by Peter Garlake (e.g., (1987a,b, 1990, 1995, 1997) and Nicholas Walker (1987, 1996) moved away from this approach with success, but the scope of their research did not add much to understanding of plants and the roles they played in the image-makers' society.

Siyakha Mguni's research on trees and formlings is the first to yield meaningful results on the topic by applying the concept of cable-like reasoning (Bernstein 1983; Wylie 1993) to the rock art contexts in Zimbabwe. He considers three separate 'strands' of evidence: a formal analysis of botanical and formling motifs, analysis of associated motifs, and the use of ethnographic material collected from San and other hunter-gatherer groups in southern Africa as analogies to inform his interpretations and typologies. This method proves to be extremely successful in the understanding of these understudied motifs from a region with a negligible amount of ethnographic material. His focus solely on trees and their ability to transcend the three-tiered San cosmos demonstrates how important the understanding of botanical motifs is, and highlights the need for further research on the subject of plant motifs and to increase the scope beyond just trees.

¹ From here on rock art will only refer to rock paintings and not rock engravings

This dissertation aims to drastically increase our understanding of the botanical world for past hunter-gatherer societies in what is now Zimbabwe, following the methods used by Mguni and by creating the first detailed review of all plant types in Zimbabwean rock art. This is achieved by conducting a formal analysis of botanical forms based on likely emic typologies, informed by the corpus of botanical rock art in Zimbabwe and tested against the relevant ethnographic material, and by applying the same approach to the identification of other image-types repeatedly found in association with them. Determining associations in this manner has limitations in that it assumes a relationship between motifs because of patterns of co-occurrence and potential interaction of plants and these motifs. I do so understanding that these paintings likely were produced over a substantial time-frame with significant periods of time between painting episodes. I argue that the possibility of association is plausible, as it is likely that each placement of subsequent painting was often intentional even if they were painted centuries apart (Lewis-Williams 1998: 88). Although the bulk of this dissertation focuses on identification and classification, it is primarily used as a solid foundation for interpretation, providing a body of knowledge with which further research can take place, and bringing to the fore to usefulness of interpreting botanical motifs through the widely accepted shamanistic theory and New Animisms.

CHAPTER 2 – A REVIEW OF LITERATURE AND THEORY

Hunter-gatherer rock art proliferates across almost the entire southern African subcontinent. The primary emphasis on botanical motifs (and secondary emphasis on associated animal motifs) has of necessity brought Zimbabwe into sharp focus as the ideal geographical location in which to explore the role played by the botanical world within the rich history, ethnography and cosmology of southern African hunter-gatherers.

2.1 – A Brief Overview of the Rock Art of Zimbabwe

Rock art is found throughout Zimbabwe. Paintings have been formally recorded since at least the 1890s and the discovery of new sites continues through to today (Nhamo 2018: 58, 65). The rock art has been recorded, studied, and interpreted through various lenses, ranging from a gaze-and-guess approach, to one informed by ethnographic information from hunter-gatherers with similar world views. Below, I outline a brief history of rock art studies in the country, then focus on studies and interpretations of botanical motifs.

Most of the early studies were empirical, with minimal attempt at an informed interpretation (Mguni 2005: 34). It is only in the past few decades that the rock art of Zimbabwe has been interpreted with the aid of ethnography collected from hunter-gatherer and San groups (Huffman 1983: 49; Garlake 1987a, 1990; Walker 1995, 1996; Eastwood 1999; Eastwood & Eastwood 2006; Hubbard & Mabrey 2007; Mguni 2002, 2004, 2005, 2006a,b, 2009, Pearce 2009). It is now generally agreed by archaeologists that the art displays themes, motifs, and metaphors pertaining to the acquisition and use of supernatural potency (Huffman 1983: 49; Garlake 1987, 1990; cf. Bahn 2010).

‘There is a significant range of differences between the paintings of Zimbabwe and South Africa though both undoubtedly belong to the same artistic tradition and derive from the same basic system of belief’ (Garlake 1990: 17).

San and other hunter-gatherer groups are highly diverse, yet there are several commonalities or similarities in their practices, ontologies, and colloquial metaphors (Guenther 1989: 33;

Lewis-Williams 1981; Lewis-Williams & Biesele 1978). This does not mean that all the San have a homogeneous culture, but rather that there are strong overall commonalities, evidenced by both the ethnographic records and the rock art itself (e.g., Lewis-Williams & Biesele 1978; Lewis-Williams 1981; Hollmann 2007: 85).

The most notable of these commonalities are the centrality of the Great Dance (trance dance), supernatural potency, tiered cosmos, creation mythology, the roles of ritual specialists, and the belief that personhood is not limited to humans. It is vital to understand these in order to understand and interpret rock art, especially in Zimbabwe, where there is no ethnographic evidence from the descendants of the painters. These complex and nuanced beliefs are briefly outlined below, and the concepts, and how they link to beliefs about plants, are discussed in depth in Chapter 4.

Supernatural potency² (or just potency see Low 2011: 297), is a powerful force, central to San beliefs, (Lewis-Williams 1981: 76–77; Katz 1982) and pervades every part of San culture and their daily lives (Low 2014: 164). Potency is used by ritual specialists to perform various supernatural tasks (healing the sick, changing the weather, and influencing the movements and behaviour game animals) on behalf of their community (Lewis-Williams 1992: 56–59; Lewis-Williams & Pearce 2004b: 205–207; McGranaghan 2012: 454; McGranaghan & Challis 2016: 590). Potency is concentrated in various substances (e.g., honey, as well as the fat, meat, and blood of specific animals), as well as medicine songs (of specific animals) and specific places in both the ‘physical’ world and the ‘spirit’ world (Mguni, 2006: 62). It is acquired and used during the trance dance (see Marshall 1999: 63–90; Katz 1982; Biesele 1993; Katz *et al.* 1997) in which ritual specialists and other initiates go into altered states of consciousness (Schapera 1930: 180, 198; Barnard 1992: 57; Walker 1996: 66–7; Lewis-Williams 1998: 92–3). When in this state, a person ‘dies’ and leaves their body, entering the spirit-world in order to obtain potency from gods and supernatural beings (Katz 1976; Barnard 1979; Lewis-Williams & Pearce 2004a: 59). The spirit-world is located underground, underwater, and in the sky, but the San do not see these realms as distinct, as they are held to interdigitate (Lewis-Williams 1992: 57). This tiered cosmos is graphically encapsulated by Siyakha Mguni (2006: 62; see figure 2.1) to show how the spirit world can be entered via the trance dance, and through certain areas or features which act as portals, such as rock-faces, termite mounds, waterholes, and bodies of water.

² *Nlom* in Jul’hoān, *!gi* in !Xam: will be referred to as potency unless specifically referring to one group

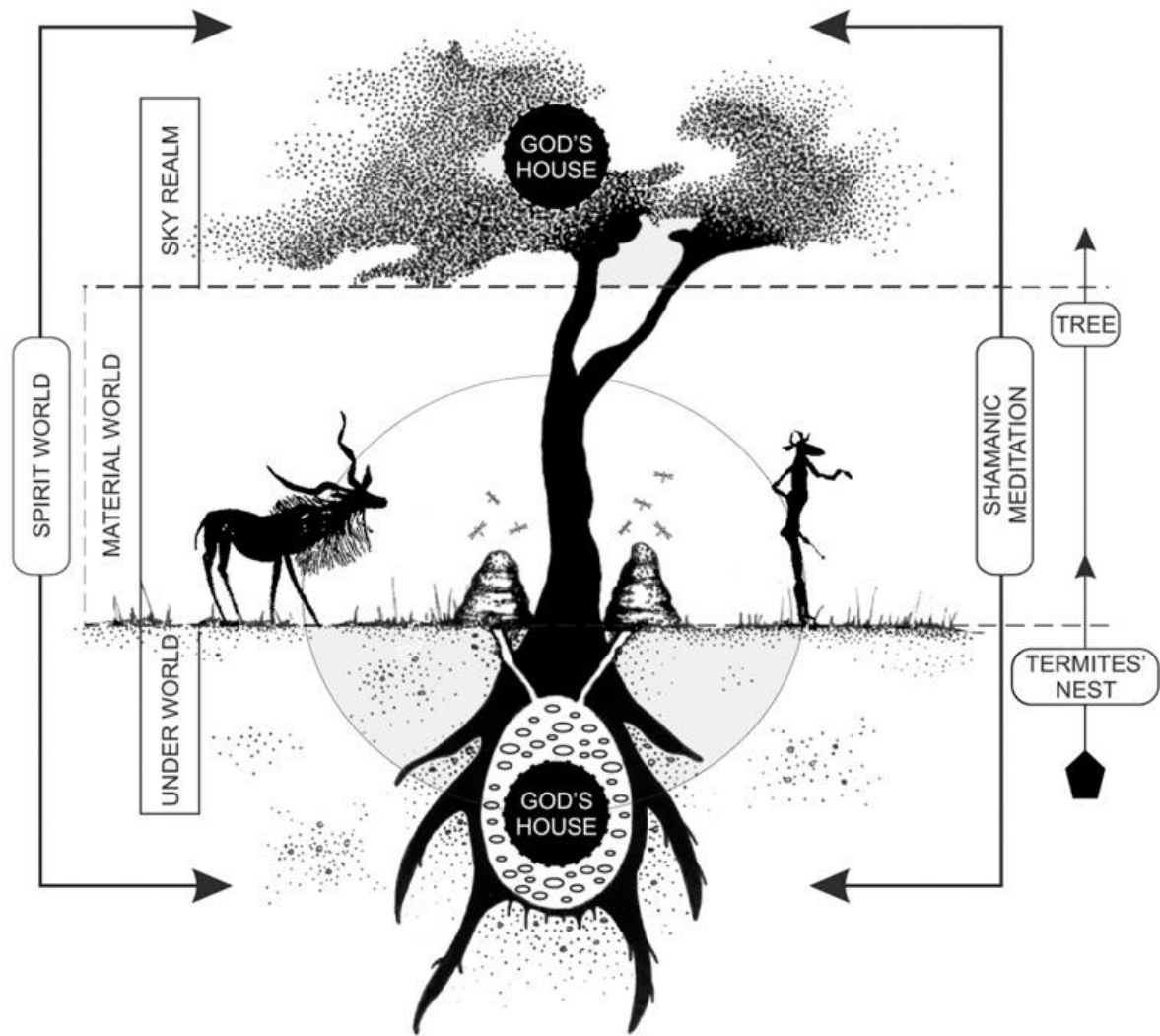


FIG. 2.1. Schematic diagram summarizes the perceptual interconnections between various natural and non-natural phenomena with a notional tree as the central “bridging conceptual pillar” in hunter-gatherer cosmology (Mguni 2006a: 66 figure 7).

A widely-held belief amongst San groups is that creation occurred in two orders (Guenther 1989: 31; Hewitt 2008: 48). During the first order all the people and animals were created, and they all lived in ambiguous forms where animals, people (Guenther 1989: 31; Keeney 2003: 29), as well as plants (Mguni 2009: 145) appeared to be one, but could easily shift according to need. It was only after an event, the exact nature of which varies from group to group, that all things were settled into their current forms (LL.II.33.394-406, 416-428, 442-448, 466, 475; Bieseke 1975: 202–204; Guenther 1989: 31–33, 84–85, 1999: 146, 152; Eastwood & Eastwood 2006: 93–94; Mguni 2009: 145). It is because of this that the San believe animals and humans are in many ways equal, in that they all have some degree of personhood (Guenther

1989: 31–4). These beliefs extend to include natural forces such as rain as persons with agency (Low 2014: 171).

The content of the rock art has many similarities to that of the rest of southern Africa, with human and animal figures forming the bulk of the corpus. Unlike much of South Africa, however, formling (motifs display elements and characteristics of termite mounds) and botanical motifs abound (Cooke 1969; Willcox 1984; Walker 1987, 1996; Garlake 1995; Mguni 2002: 1). Eland, the most frequently-painted animal in the rock art of the well-known Maloti-Drakensberg region (Lewis-Williams 1981) are far less common in Zimbabwean rock art (Nhamo 2014: 331), and animals such as kudu, giraffe, tsessebe, elephant, buffalo, sable/roan, and smaller antelope are far more common (Garlake 1995: 123–128; Walker 1996: 89; Mguni 2002: 1).

There are significantly fewer examples of domesticated animals such as fat-tailed sheep, dogs, or cattle, found in the hunter-gatherer rock art of Zimbabwe, when compared to that of South Africa (Walker 1996: 13). Nicholas Walker (1995: 14, 247, 255, 1996: 13) argues, therefore, that this means most of the art was created before the arrival of African farmers and pastoralists from approximately 2100 BP (Walker 1983: 88, 90).

Peter Garlake (1987a: 190–191) noted that there were fewer depictions of nasal bleeding, therianthropes, and dancers in Zimbabwe, especially in the north of Zimbabwe, compared to South Africa. According to Royden Yates *et al.* (1985: 73–74) and Ghilraen Laue (2017: 182–183) these are rare in South Africa outside of the Maloti-Drakensberg. He took this to mean that there were fewer depictions pertaining specifically to trance. However, this is quite possibly not because there are no trance metaphors, but rather that there are different conventions in the representation of altered states of consciousness (ASC) and out-of- body travel.

Garlake (1987a: 191) also highlighted that the art of Zimbabwe is significantly older than the art of South Africa. Using indirect dates of painted spalls found in dateable deposits, Walker (1996: 13) surmises that these paintings were made starting from between 14 000 and 10 000 BP in Pomongwe Cave (Walker 1996: 14), with most paintings dated between 10 000 to 8000 BP (Walker 1996: 14). In comparison, rock art was still being created in the Maloti-Drakensberg in the 19th century (McGranaghan *et al.* 2013). It has been shown that South African art in the sandstone of the Maloti-Drakensberg is as old as 2998 – 2381 cal. BP

(Bonneau *et al.* 2017; see also van der Merwe, Sealy and Yates 1987; Mazel & Watchman 1997). The difference in ages is likely, at least in part, to be a function of the different materials of the rock faces in Zimbabwe (granite) (Cooke 1969: 27; Garlake 1995: 8; Walker 1996: 9), and South Africa (sandstone) which weather at significantly different rates (Yates & Manhire 1991: 3; Garlake 1995: 18; Walker 1996: 9, 14; Meiklejohn *et al.* 2009: 973; Mol & Viles 2010: 280). Rock art painted on portable stones (*art mobilier*) has been found on burial stones in South Africa dating to 6430 BP (Pta-4612) (Binneman & Hall 1993: 93–94; Pearce 2002: 29) and on stone slabs in Namibia at Apollo 11 Cave (27 000 BP) (Rifkin *et al.* 2015: 115)

The hunter-gatherer rock art found in Zimbabwe has a high level of diversity in both technique and content (Mguni 2006b: 538; Nhamo 2014: 49–82), with variations occurring temporally and regionally. Walker (1996: 31) and Mguni (2002: 1) argue that kudu, tsessebe, giraffe, formlings and plants are the most commonly depicted in the Matopos in Matabeleland South, and as one moves further north, elephant, buffalo, and waterbuck are found in greater numbers. This may be true for these animal motifs but myself (*pers. obs.* 2019), and Jeremy Hollmann (*pers. comm.* 2019) note that plant motifs are more common in the North-East of the country. According to Ancila Nhamo (2014: 354), formlings are rare in Central and Eastern Zimbabwe but occur more frequently in the north in Mashonaland.

Most of the formal archaeological studies conducted in this area have focused on lithics, pottery, and other excavated material culture (Jones 1926; Schofield & Stapleton 1938; Cooke 1969, 1983; Wilcox 1984; Walker 1987, 1996; Garlake 1995). Over 4000 rock art sites have been recorded across Zimbabwe, many of which were recorded during the colonial period by rock art enthusiasts and not trained archaeologists (Nhamo 2018: 65). It would be wasteful not to use the empirical data of rock art (historical copies, tracings, and other quantitative data) collected by these early writers because of their mostly erroneous interpretations.

Early recording of botanical motifs

The first Westerners to pay any attention to botanical motifs were Richard Hall (1912: 593–596 in Mguni 2002: 31), Samuel Dornan (1925: 186), Leo Frobenius (1930: 338 in Mguni 2009: 139), and Margaret Taylor (1927: 1085 in Mguni 2002: 153). These early writers interpreted the art as a recording of daily events, landscapes, plants used, or ‘art for art’s sake’ —the decoration of rock shelters (e.g., Breuil & van Riet Lowe 1944; Goodall 1959; Cooke

1959, 1969, 1971: 19; Woodhouse 1979). These interpretations are deeply Eurocentric, denying any deeper meaning or cultural significance attributable to what has since been shown to be a highly sophisticated, nuanced, and complex art tradition. It is unfortunate that uninformed approaches are still employed by some today (e.g., Henning & le Clus 2011: 4).

Despite their erroneous interpretations of the content of the art, and the reasons for its creation, these early writers did make note of, and sometimes recorded, many sites; and the prevalence of botanical motifs became apparent. Frobenius (1930: 338, cited in Mguni 2009: 139) notes that in Zimbabwe, sites with paintings of trees appear almost as frequently as those with animals do in South Africa. However, further surveys have revealed that botanical motifs appear far less frequently, and that botanical figures make up a small percentage of the total number of figures across Zimbabwe (Breuil & van Riet Lowe 1944: 4; Garlake 1987a: 60; Mguni 2009: 139). Walker (1996: 80) found that only, 1.9% of the Motobo sites contained plants.

2.1.1 – Early interpretations of botanical motifs

Trees and arboreal forms (motifs or figures that incorporate elements of trees) are found in the highest concentration in Zimbabwe, to the extent that Frobenius (1929; 1931 in Mguni 2002: 7) believed tree motifs, along with formlings, to be the defining feature of what was then referred to as Southern Rhodesian art. Botanical motifs are not limited to Zimbabwe, however. They are found in Namibia (Mason 1958, 357–368; Pager 1989: 109, 152, 250, 276; Lenssen-Erz 2001: 96; Mguni 2009: 142), South Africa (van Riet Lowe 1949: 37; Vinnicombe 1976: 280; Lewis-Williams 1980: 469; Mguni 2002: 155; Hollmann 2015: 11), and Lesotho (Orpen 1874; Challis *et al.* 2013: 343), although they are few and far between. This scarcity of botanical motifs is not necessarily indicative of a lack of importance (Mguni 2002: 9), as plants feature in the ethnographic record from these regions and are discussed in the following chapters.

Mguni (2002: 153) states that a proportion of the botanical motifs are obviously arboreal or tree-like. Their ease of identification as trees, coupled with their high frequency, is the reason that they have been the focus of almost all studies of these motifs, with other plant forms being largely ignored (e.g., Frobenius 1929, 1931; Taylor 1929; Cooke 1969, 1971; Rudner & Rudner 1970; Woodhouse 1979; Walker 1996; Mguni 2009).

2.1.2 – *Early Interpretations of associations*

'I draw attention to the repeated association of formlings and botanical motifs. Their coexistence is crucial to understanding these motifs' (Mguni 2002: 5).

From the very first recordings it was evident that formling motifs and botanical motifs are linked (Frobenius 1931 in Mguni 2002: 7; Goodall 1959 in Mguni 2002: 4; Mguni 2002: 1, 2006b: 583, 2009: 142, 2015: 156; Eastwood & Eastwood 2006: 128). In reviewing botanical motifs one must, to a certain extent, review formlings. The connections and associations between these motifs are clearly evident in both the frequency in which they are painted together, and in the interactions between them. This connection led early writers to interpret these motifs as a dyad. In this dissertation they are examined together.

Formlings, interpreted by early researchers as rocks or kopjes, have previously been labelled as part of landscape paintings into which trees were also placed. This is because it was believed that the paintings were depictions of the natural world (e.g., Breuil & van Riet Lowe 1944: 4; Goodall 1959: 60–66; Cooke 1959: 42, 1969; Woodhouse 1979 in Mguni 2002: 18). Hall (1912: 594) and Henri Breuil (1966: 24) argued that since the painted plants in the Matopos did not look like any plant species found in the region that they must be depictions of a lush and fertile utopia (Mguni 2002: 32).

Frobenius (1931 in Mguni 2002: 27) and Elizabeth Goodall (1959 in Mguni 2015: 24) believed formlings to be the tombs of ancient monarchs and interpreted the large therianthrope figure at Dianna's Vow as an embalmed king. Following this supposition they interpreted some botanical motifs, which are often in association with formlings, as sources of tannins to embalm bodies (Frobenius 1931 in Mguni 2002: 32). There is only one example of archaeological evidence of hunter-gatherers potentially preserving their dead, with the use of *Boophone disticha* leaves, in Kouga Mountains, Eastern Cape, South Africa (Binneman 1999: 1–2). There is no ethnographic evidence of southern African hunter-gatherers preserving their dead, and still less evidence for 'kings'.

Eric Holm (1957: 68 in Mguni 2002: 32) interpreted formlings as succulents, not rocks—as was then the current theory. Cranmer Cooke (1971: 19 in Mguni 2002: 32), in his attempt at a

more pragmatic interpretation, argued that the botanical motifs were depictions of plants used by the people for their practical and economic importance, sustenance, or medicine. This is not necessarily the case, however. For example, we know from analyses of excavated faunal assemblages that the animals painted were not those most often utilised for food (Walker 1996: 31).

Hunter-gatherers showed a preference for hunting smaller game animals (Walker 1996: 99–8). The species depicted in the art are mainly larger herbivores, and to a lesser extent predators (Eastwood & Eastwood 2006: 98–102), and although eaten, do not align with the faunal assemblages (see Davies 1952; Cooke 1963; Deacon 1965: 199; Vinnicombe 1972: 194; Walker 1996: 31; Challis *et al.* 2007: 468). Therefore, it is clear that the depictions of animals in rock art are not a menu of what hunter-gatherers ate. This is quite possibly also the case for botanical motifs. Only in the late 1970s and early 1980s did archaeologists start to see the rock art as exemplifications of spiritual and religious beliefs—though Wilhelm Bleek (in Orpen 1874: 11–13) had stated this as early as 1874. It was Patricia Vinnicombe (1976: 280) who first observed that the botanical motifs likely held a deeper spiritual or religious meaning.

2.2 – Searching for Meaning in San Rock Art

It has long been argued that, in order to gain any meaningful understanding of southern African rock art, one must abandon trying to interpret it from a Western point of view (Lewis-Williams 1998: 87; Lewis-Williams & Pearce 2009: 42). The interpretation of the rock art must be informed by ethnographic material collected from southern African people who share similar lifeways and worldviews i.e., the San (Lewis-Williams 1998: 87; Lewis-Williams & Pearce 2009: 42). This approach must be critically evaluated before it can be employed. I therefore give a brief outline of what has become known as the shamanistic model, as well the complimentary New Animisms before reviewing how the model has been used in the interpretation of the rock art of Zimbabwe, and more specifically the botanical motifs.

It was only with the pivotal and pioneering work of Vinnicombe (e.g., 1976), and David Lewis-Williams (e.g., 1981) that archaeologists began to examine emic, or insider, meanings of the art. Informed by the ethnographic accounts collected from various San groups such as the Jul'hoānsi, G!wi, Naro, and the !Xam, the art is seen as highly symbolic and fundamentally religious, with the religion being centred on the trance dance, or Great Dance, and the

acquisition of supernatural potency for healing and other tasks (Vinnicombe 1976; Lewis-Williams 1980, 1981, 1998, 2002, 2015, *inter alia*; Huffman 1983; Lewis-Williams & Dowson 1990, 1999; Garlake 1995; Walker 1996; Lewis-Williams & Pearce 2008). Supernatural potency is acquired by shamans in order to perform specialised duties on behalf of their group; namely healing the sick (Lewis-Williams 1992: 56–58; Hollmann 2002: 563), controlling the game (Hollmann 2002: 563; McGranaghan 2012: 454; McGranaghan & Challis 2016: 590), and controlling the weather (Dowson 1988; Lewis-Williams 1992: 59; Lewis-Williams & Pearce 2004b: 205–207; Skinner 2017: 25).

Much like the rest of southern Africa, hunter-gatherer groups in Zimbabwe adapted to, assimilated into, or removed themselves from early ‘Iron Age’ or Bantu-speaking farmer society, and, later, European colonial and modern-day society (Jolly 1996: 287; see also: Gordon 2000: 49–56; Köhler & Lewis 2002: 277; Sadr 2005: 206; Grauer 2007: 12), so that now ‘only snippets of their beliefs have survived’ (Walker 1996: 66). Although the ethnographic sources are temporally and spatially distinct, a common underlying core belief system has been shown to exist within these societies, which focuses on altered states of consciousness (Schapera 1930: 34; Garlake 1987: 178, 1990: 17; Yates *et al.* 1990: 55; Barnard 1992: 57; Walker 1996: 66–67; Lewis-Williams 1998: 92–93; Eastwood 1999: 16; Mguni 2006: 52, 2009: 143; Skinner 2017: 27). Nhamo (2007a) argues that because there is negligible ethnographic information from hunter-gatherers from Zimbabwe and that the rock art in the country differs from that of South Africa in both content and conventions, the art of Zimbabwe is therefore distinct and must be interpreted in its own right. However, Nhamo (2007b: 13, 2014: 67–68) does acknowledge that the use of some ethnographic material is unavoidable; that there are numerous similarities between the hunter-gatherer rock art across southern Africa, and that each links to the ethnographic material. The independent sources of ethnographic material each demonstrate striking similarities to the rock art in southern Africa. These similarities strengthen the use of these sources as analogies for the interpretation of Zimbabwean rock art. Although there are many similarities, she argues that the differences (in both content and style) are equally important, and that these changes are indicative of different cultures, and expressions, rather than just a change over time (Nhamo 2014).

2.2.1 – Theoretical framework

The shamanistic model uses ethnographic material collected from San and hunter-gatherer societies in southern Africa as a means by which we can investigate and interpret rock art. There are correspondences between each of the sources of ethnography and, more importantly, between each source of ethnography and the rock art (Lewis-Williams & Bieseke 1978: 130; Walker 1996: 69; Lewis-Williams 1998; Skinner 2017: 30). The contexts in which the ethnography was collected and the context of the people at the time gives a much more localised and specific view of those people (Low 2014: 173). Using all of these sources of ethnography together produces a much broader framework (Jolly 1983; Lewis-Williams 1998; Smith 2010: 352; Skinner 2017: 130) with which to interpret rock art and, more specifically, the botanical motifs of Zimbabwe. It must, however, be used with caution (Mguni 2009: 126). The validity of the ethnography and the context in which it was taken should be taken into account - although, by the very nature of San storytelling, there are many idiosyncrasies (Bieseke 1975, 1976, 1993; Guenther 1999: 227; Keeney 2003: 19, 24). These idiosyncrasies are the result of a culture that prioritises subjective physical experiences over exact objective narratives (Bieseke 1975, 1976; Guenther 1989, 1999; Keeney 2003: 19). San people have been described as tolerant of ambiguity and ‘seem untroubled mentally and emotionally by such cosmological and logical incongruities as humans merging identities with the animals of myth and veld’ (Guenther 1999: 227 in Parkinson 2003: 137). For example, the details of what is experienced by a person in trance may differ between groups or individuals, but nevertheless the core belief system remains.

In light of the numerous similarities in beliefs and ontologies found in the ethnographic material and the rock art of South Africa, I have tested my data against the shamanistic model to understand the meanings of the botanical motifs in the rock art of Zimbabwe. The shamanistic approach is most succinctly explained by Lewis-Williams (1998: 87) thus:

‘The making of San rock paintings was essentially (or principally) associated with a range of shamanistic beliefs, rituals and experiences and was situated within a tiered shamanistic cosmology and complex social relations. The images comprise symbols (or, more emically, concentrations) of supernatural potency (e.g., paintings of eland), images of trance dances, fragments of trance dances (e.g., single figures in the arms-back posture), processed (recollected and formalised) visions (e.g., the capture of a

rain-animal), transformed shamans (including the so-called therianthropes), monsters and beings encountered in the spirit-world, activities performed in the spirit-world (e.g., fighting off malevolent spirits of the dead), and 'scenic' groups (loosely called 'compositions) made by one or more painters, and complex groupings, including superimpositions, of many images that, in a range of ways, show the interdigitating of the spirit realm with the material world The spirit-world was, in some conceptual circumstances, believed to lie behind the walls of rock shelters. '

Below I outline the basic postures and representations of experiences of the humans in the trance dance based on ethnographic material collected from San groups in the Northern Cape and Kalahari, to identify them in the rock art. The Great Dance entails a procession of people who dance in a circle in short staggering rhythmic steps, usually around a fire. Outside this circle women sit nearby, and clap and sing complex, polyrhythmic medicine songs, which help activate the potency in the dancers and are themselves full of potency (Marshall 1969: 352; Lewis-Williams 1987: 166–167; Keeney 1999: 38, 41, 47, 60). The dancers have specific physical responses and experience various visual, auditory, and somatic hallucinations as a result of entering altered states of consciousness in this way. Common responses are abdominal pain (which causes many to bend over), shortness of breath, hyperventilating, sweating, nasal bleeding, trembling, and finally they collapse to their knees with their heads to the ground and sink into complete unconsciousness where they 'die' and can leave their body (Katz 1976; Barnard 1979; Huffman 1983: 49; Lewis-Williams 1987: 167; Walker 1996: 67). In this state, dancers can enter very deep trance states and experience paroxysms, which are sudden, violent and energetic outbursts (Marshall 1962, 1969: 360; Huffman 1983: 49). People adopt specific postures during the dance, which include bending over, holding their arms behind the back, placing their hands on their heads or hips, squatting, and kneeling on all fours (Woodhouse 1971: 128–129; Huffman 1983: 50). Accompanied by these are sensory experiences which include auditory hallucinations: damped hearing, as if underwater (Lewis-Williams 1984, 1988: 8; Walker 1996: 70), visual hallucinations: phosphenes, trails of light, and hallucinations (Lewis-Williams 1981, 1984, 1988: 8; Walker 1996: 70). Somatosensory hallucinations are also experienced, such as elongation of the body, weightlessness (as if flying or underwater), experiencing extreme heat or cold, boiling in the stomach, and tingling of the hair roots, which can make one feel as if they are growing hair (Lewis-Williams 1987: 172; Hollmann 2002: 567). Many of these same behaviours are physiological responses are seen in the animals (most notably eland) depicted in the rock art in Southern Africa either naturally, or when they are

killed, especially via poison from poisoned arrows (Lewis-Williams 1981: 237, 1987: 172; Yates *et al.* 1985; Hollmann 2005b: 84). It must be noted that although death is a metaphor for entering trance, the San truly believe they die and leave their bodies when they enter a deep state of trance (Katz 1976: 144–145; Barnard 1979: 73, 75). Thus, when certain animals die, they are seen as analogous to humans going into trance (Lewis-Williams 1987: 172). The most notable and most studied is the eland in the rock art of the Maloti-Drakensberg (see Vinnicombe 1976; Lewis-Williams 1981: 91 for a more detailed discussion).

New Animism

The New Animisms constitute an anthropological movement focusing on beliefs in which both humans and non-humans (animals, plants, natural forces e.g., wind and rain) have agency and personhood, away from earlier views on animistic societies that were oversimplified and derogatory (Low 2014: 165, 169). The degree of attributed personhood is in constant flux, and the manner in which it is mediated varies over time and from group to group (Low 2014: 171). Robert Wallis (2013: 51–53, 59, 61) puts forth the idea of ‘rhizomic personhood’, as a means to describe the central tenant of New Animism in that it is fundamentally a relational ontology, specifically where non-human-people are extant prior to human involvement and have their own relationships with one another (Cruikshank 2005: 15). Wallis (2013: 61) uses the growth patterns of rhizomic plants as an analogy for this web of relations where the roots of a plant spread out in all directions with nodes where new shoots form. These nodes and shoots represent various persons and their interconnectedness with some only connected via another, with no hierarchy or centre.

In southern Africa, New Animisms can be complementary to the shamanistic approach (McGranaghan & Challis 2016: 580) and is used as a framework to understand the interactions between specific human and non-human entities in San mythology, and to investigate whether these are represented the rock art (Low 2014: 171). This framework, like the shamanistic approach, is based on ethnography and uses indigenous epistemologies. I take a specific approach, focusing on how humans interacted with animals and non-real creatures that are ‘of the rain’ and how, in certain instances, plants or plant charms were used to facilitate these interactions (McGranaghan & Challis 2016: 580). For example, in the !Xam worldview rain is not just a natural phenomenon but is one manifestation of *!Khwa*, a powerful entity who is rain

and in some instances water, mist, or clouds. Specific animals and plants that are associated with the rain, but from an etic perspective are unrelated, are *!Khwa-ka-tshweng*, things of the rain (Challis *et al.* 2013: 346). ‘Tameness’ and behaving ‘nicely’ are desirable qualities in both human and non-human persons (McGranaghan & Challis 2016: 586) that result in more amicable relationships. Humans behave in the right manner so that non-human persons behave in the same fashion, and so will be easier to hunt, or will send rain (McGranaghan & Challis 2016: 587).

Plants were not only used to mediate these relationships but some were persons in and of themselves, whether this be a plant with agency (e.g., *Jo-õä*) (Hollmann 2004: 311; McGranaghan 2012: 138), mythical figures from Primal Times (e.g., *!Xue*) (LL.XI & XII.5.9362-9377, 9379, 9380v, 9381-9391, 9391v, 9401v; LL.XI & XII.8.9608-9618, 9624-9626; Guenther 2019: 57), or people who transform into plants (Mguni 2002: 51, 2015: 40) which I shall argue is to take on characteristics of plants (phytanthropes).

2.2.2 – *Meaning in the rock art of Zimbabwe*

Siyakha Mguni’s interpretation uses the ethnographic material collected from many San communities in the Kalahari, Northern Cape, and Eastern Cape as a central pillar to the interpretation of botanical, and forming, motifs (Mguni 2002: 4, 2004: 183, 2006a: 58, b: 538, 2009: 142). While this is by no means a new approach, he utilises the ethnographic record using ‘cable-like reasoning’, which allows for detailed and nuanced interpretations of these motifs.

Mguni (2002: 4) makes a distinction between ‘chain-like’ and ‘cable-like’ arguments in scientific reasoning, as set out by Bernstein (1983) and Wylie (1989, 1993). Chain-like arguments work on observations that are generalised to form a ‘link’, to which the next link in the argument is added. If one of these links is faulty, however, the entire argument fails. Cable-like reasoning examines ‘discrete strands of evidence’ as interconnected and intertwined (Bernstein 1983; Wylie 1993; Mguni 2002: 4). If one strand fails but all the other ‘strands’ remain intact then the argument remains strong (Bernstein 1983; Wylie 1989; Mguni 2002: 4). Mguni uses three strands of evidence for his interpretations: formal analysis of the rock art images; analysis of associated motifs; and ethnographic material collected from various San, and wider, hunter-gatherer groups (Mguni 2002: 4). This approach has yielded encouraging results in the interpretation of the rock art of Zimbabwe.

Peter Garlake is the first archaeologist to focus on the botanical images in any meaningful way. He sees the art as depicting trance phenomena, and the acquisition and use of supernatural potency, with many fundamental similarities with the rock art of South Africa. However, he sees several significant differences between the art of Zimbabwe and South Africa especially with regard to the presence of plant forms and formlings (Garlake 1987: 190–191; see also Vinnicombe 1976: 280).

Garlake (1987a, b) made a major contribution to our understanding of botanical motifs, but it is not without its flaws. He interprets the rock art, specifically formlings and flecks, as symbols of potency, but later suggests that the lack of literal trance-related imagery (e.g., nasal bleeding, or processions of dancers) is due to shamanism being only one element—and not a significant one—in the art (Garlake 1987a: 190–191, 1995: 166; Mguni 2002: 51). This seems highly unlikely, as potency and the Great Dance are an integral part of shamanistic beliefs of San and southern African hunter-gatherers and the paintings thereof (Bieseke 1975: 5; Huffman 1983: 49; Jolly 1983: 47, 75; Garlake 1987: 178; Lewis-Williams 1981, 1992; Guenther 1989; Marshall 1999; Mguni 2015: 142; Skinner 2017: 27). This lack of trance metaphors and symbolism is not due to it not being shamanistic (Skinner 2017: 27), but rather to different conventions in the representations of altered states of consciousness (ASC) and out-of-body travel.

2.3 – Trees and Arboreal Forms

Trees and other arboreal forms are by far the most common botanical motifs (Rudner & Rudner 1970; Walker 1996: 26; Mguni 2002: 6, 2009: 139). Like most other botanical motifs, the trees are highly stylised and, in some cases, have extraneous features removed and relevant features highlighted, most likely in order to convey a particular meaning (Garlake 1995: 23; Mguni 2002: 157, 2004: 189, 2005: 37). Features of importance were most often the trunks, roots and in some cases the leaves (Walker 1996: 26; Mguni 2002: 154, 2009: 145). In some cases, these features are highlighted by increasing their size, and this should be kept in mind if one is using scale to identify plants in the botanical motifs (Mguni 2002: 157); stems, leaves, and fruit are not always in natural proportion to one another. When leaves are depicted, they are often

formed by two lobes to depict what Taylor (1927: 1058 in Mguni 2009: 140) refers to as ‘conventional trees’.

Highly stylised arboreal forms have almost no specifically identifiable features (Walker 1996: 32), and so their exact type (depending on the emic classifications system used by the artists) might not have been important. It is likely that identity (whether a particular plant, or a group of plants, as classified into indigenous categories), when shown, must have been of some import. It is possible that some of the botanical forms that are unidentifiable to us, due to the lack of definable features used for Western taxonomic classification, but would have been easily identifiable to the hunter-gatherers of the time (Heinz & Maguire 1974). The fact that one can paint generalised trunks, leaves and roots is a strength and not a weakness. Botanical motifs were painted with as much or as little detail as was required by the image-makers to convey a particular set of intended meanings (Mguni 2002: 165–6).

2.3.1 – Understanding trees in their own right

The symbolisms and meanings of tree motifs must be understood in their own right, as well as through their associations with other linked motifs (Mguni 2002: 52, 2015: 42). It is in this respect that both Garlake and Walker fall short in their attempts to understand tree motifs. David Lewis-Williams (1987: 166) proposed interpreting rock art by looking at it as analogous to a written language. If we are to understand or ‘read’ what a panel is saying then we must understand the meanings of each word (motif) before we look at the syntax, or associations between motifs and the rockface (Lewis-Williams 1987: 166; Lewis-Williams & Pearce 2009: 43). This analogy has proven to be very useful because the context and associations of images can alter the meaning of each motif (just as they can with words), because they are polysemic symbols (symbols with multiple meanings), but it is crucial that we know what these meanings (informed by the relevant ethnography) are beforehand (Garlake 1990: 17; Lewis-Williams 1987: 166; Lewis-Williams & Pearce 2009: 43). That is not to say that rock art *is text* with a linear narrative, but that motifs, much like words, have specific meanings, which are used either in isolation or in association to convey a specific set of meanings through the form of metaphors and idioms (Lewis-Williams 1998; cf. Tilley 1991).

Trees thus have the ability to transcend physical and spiritual worlds, acting as a cosmological *axis mundi*. This is because their roots go underground and their trunks and branches into the

sky (Rappenglück 2018), both of which are worlds of spirit and the supernatural in the tiered cosmos of the San (e.g., Lewis-Williams 1994: 278, 1998: 87). The trunks and boughs are highlighted in the paintings, probably because these are the features that allow for travel on a vertical axis. All other detracting structural details of the tree, such as the smaller branches and leaves, are removed. The act of using trees for vertical travel features frequently in San cosmology (Bieseles 1978: 929–933; Guenther 1999: 188) and is likely a metaphor for traveling either underground (through holes next to the roots) or into the sky, both common during out-of-body experiences in trance (Orpen 1874: 8–10; Bieseles 1978: 929–933; Whitley 1994: 24, 26; Guenther 1999: 188; Mguni 2009: 145). Lateral roots of trees often indicate the ground level and act as another way to demonstrate what is underground (Mguni 2009: 140). The roots, trunks, and branches of these trees are stylised and contain few details or diagnostic features. Other botanical forms such as geophytes, fruits, seeds, and flowers are much less frequently depicted when compared to trees (Mguni 2002: 155, 2009: 140; e.g., Mason 1958: 364; Garlake 1987: 41, 60; Pager 1989: 276).

2.3.2 – Understanding the meanings of ‘unidentifiable’ trees’ through association

There are several motifs that are often found in association with (i.e. motifs superimposed over, touching or in the same cluster as another) tree motifs and can aid in the interpretation of their meaning in that specific context. Trees are most often found with one or more image categories, i.e., formlings, flecks, human figures, kudu, tsessebe, and/or giraffe (Mguni 2002: 157). Walker (1996: 60) states that in the Matopos, arboreal motifs are most often found in association with images of birds. However, this does not seem to be the case, and his lack of published recordings of these panels makes it difficult to verify.

Tree motifs are very often found within or surrounded by fields of flecks (Garlake 1995: 33–4, 98; Mguni 2002: 15, 2009: 142–143), which often look very similar to the leaves of those trees (Garlake 1995: 99). They seem to swirl, and flow around the trees, especially the crowns (Garlake 1990: 21, 1995: 99; Mguni 2015: 38). The claims made by early writers that these flecks are *literal* representations of rivers or other features of the landscape are easily dismissed as they, like all other motifs, are highly symbolic and inherently shamanistic, and so have a

deeper meaning beyond literal depictions (Walker 1996: 34). To Garlake (1995: 105) these flecks are representations of a form of potency that is specific to plants. It is likely that they are representations of potency, which is often the case in hunter-gatherer rock art in South Africa (Dowson 1989: 92; Lewis-Williams & Pearce 2004a: 98), but he ignores a fundamental feature of potency—that it permeates plants, animals, and people alike and that ‘... the potency that permeates these subjects is undifferentiated.’ (Mguni 2015: 40; cf. Low 2011: 297; Hollmann & Lombard 2020). This argument also ignores the association between fleck and other motifs such as humans (Walker 1996: 34), formlings (Mguni 2002, 2004, 2005, 2006a,b, 2009, 2015) and other animals, which Garlake himself later notes (1995: 46, 135–136).

Chris Low (2011) suggests that potency is not supernatural, as it is part of everyday KhoeSān life, and that it is not substance but rather a potential to do work with. From his work with numerous Khoe and San groups he argues that:

‘The idiom of work is closely tied to ownership and to taking on the characteristics and powers of something, or mastership. KhoeSan healers, old and new, describe how they own and work with particular animals or plant medicines. Similarly /Xam folklore reveals shamans who were owners of springbok. A Hai//om healer described the Ju/’hoansi as the people who ‘own the lion’ because they work with the lion. Birds that are strong do strong things. By taking on the potency of a strong bird a person can become strong and achieve the same things as the bird; they own the bird or work with the bird. Birds that fly before the rain are described as working with the rain or being owned by the rain’ (Low 2011: 300).

Walker (1996: 71) interprets the fork-like shape of some of the bare trees as linked to or representative of arrows, which are commonly forked in paintings. To him, the forked trees have more to do with potency, due to their supposed arrow symbolism, than with trees.

The work of Siyakha Mguni (2002, 2004, 2005, 2006a,b, 2009) changed the way we understand Zimbabwe’s rock art. For instance, he showed that the ubiquitous formlings contained elements of termite nests in their structure and, informed by ethnographic material and natural modelling, that they were polysemic images relating to supernatural potency, creation, and rain. Termite nests and mounds have deep spiritual significance because they are seen as portals to the spirit-world, much like waterholes and rockfaces (Lewis-Williams & Pearce 2004a: 119). Trees that grow out of these mounds connect them to the sky and so combine to form an *axis mundi* connecting sky, ground and underground (Mguni 2006a: 63, 67). Termites are a renowned source of fat, which in the San idiom translates as supernatural potency; termite mounds,

therefore are foci for this spiritual power (Jolly 1983: 75; Walker 1996: 72; Mguni 2004: 189, 2006: 67). Arboreal forms are regularly depicted in relation to formlings in the Matobo and Mguni (2002: 5, 150, 154, 2004: 183, 2006a: 58,b: 538, 2009: 142) demonstrates a convincing connection between the two and their associated symbolism and meaning.

2.4 – Geophytes, Leaves, Flowers, Fruits & Seeds

Geophytes are plants with underground storage organs (USO) which include tubers, roots, rhizomes, and bulbs. I draw a distinction between USOs, and tree roots, solely for the purposes of classification. Tree roots are used as one means to illustrate the distinction between surface and underground and are used to travel through and across these realms (Mguni 2002: 154, 156, 2009: 140). In paintings, these are often simple in design in order to highlight this feature (Mguni 2002: 154, 2009: 140). Geophytes that are not associated with trees appear in different contexts, with detailed morphological features marking them as distinct from tree roots. One exception to this is tree roots with morphological features similar to those of USOs, and which could potentially be diagnostic features. Geophytic storage organs are the second most commonly depicted botanical motif, yet they have not been discussed in any detail by researchers. Little mention is made except for their presence, frequency, and on occasion their associations. Walker (1996: 32) observed that bulbs are found painted more frequently in Mashonaland than in the Matopos. Geophytes and tree roots are both found underground and their presence in a panel acts as an idiom relating to the ability of plants to transcend the San's tiered cosmos (Mguni 2009).

Other plant forms, particularly geophytes, feature in the ethnographic record and the rock art. These plants are valued for their medicinal or spiritual properties, or because they contain supernatural potency (Marshall 1999: 52–53, 149–150, 166; Mitchell & Hudson 2004: 41). These plant forms appear more often in the ethnography than trees (Katz 1982: 52; Marshall 1999: 52; Mitchell & Hudson 2004: 41–43). This could be in part due to the greater number of and reliance on geophytic plants when compared to trees in the arid Kalahari biome (Cowling *et al.* 1999: 3; Procheş *et al.* 2006: 27). That is not to say that just because geophytes are mentioned more frequently than trees in the Kalahari ethnography, that they were more important. Even if they are more important to the Kalahari San groups (whose ethnographic

material is used to aid interpretation of Zimbabwean rock art) one cannot say paintings of geophytes are of more importance than trees. An example of this:

‘Ju/’hoansi in respect of the zao (Terminalia sericea) and /ana (Acacia giraffae, now Vachellia giraffae) trees, which they believe to be capable of influencing the rain’ (Marshall 1999, cited in Mitchell & Hudson 2004: 43).

Fruits or seed pods are rarely painted (Mason 1958: 364; Garlake 1987: 41, 60; Pager 1989: 276; Mguni 2002: 155, 2009: 140), and flowers or buds even less frequently (Rudner & Rudner 1970: 155).

Geophytes and fruits, when painted, are commonly depicted being used by people, e.g., pounding roots (figures 2.2A & C), and eating fruit (Garlake 1995: 60; Hubbard 2013: 17). There are a small number of images of people eating plants. Figure 2.2D shows a human with a distended stomach, eating what is most likely the fruit of *Ficus sur*. Further, the distended stomach in this example is a depiction of being full of potency (Garlake 1995: 60; Hubbard 2013: 17) which has been recorded ethnographically (Katz 1982: 51; Yates *et al.* 1985: 72; Garlake 1995: 89). This is likely the case as a distended stomach is a widely used convention, both seen in the rock art of southern Africa, and from ethnographic material, for being full of potency (Katz 1982: 51; Yates *et al.* 1985: 72; Garlake 1995: 87–89; Mguni 2004: 186). *Ficus* fruit contain no psychoactive compounds, highlighting the point that psycho-activity of a plant does not pertain to potency or ritual significance.

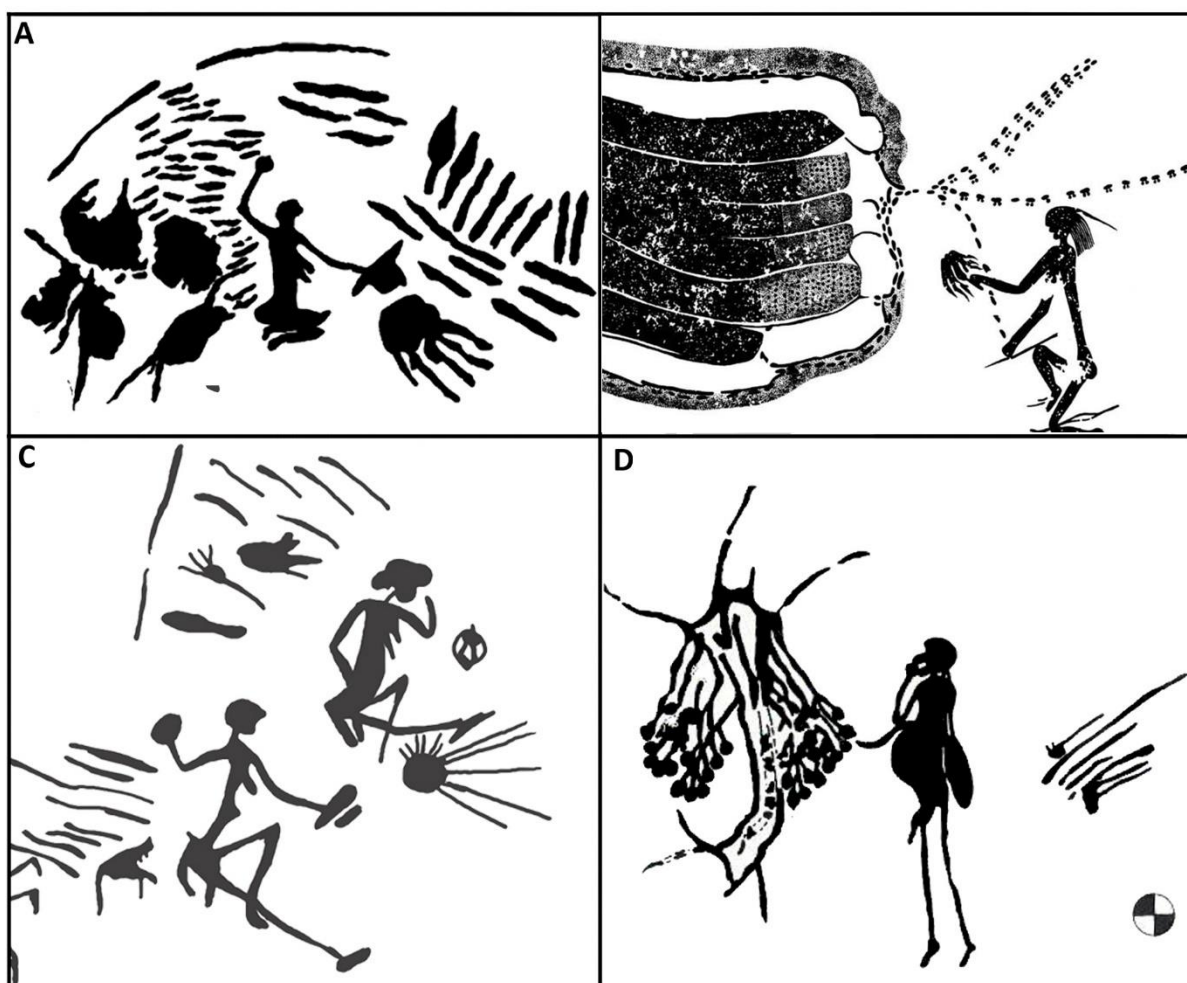


FIG. 2.2. Depictions of human figures interacting with botanical motifs described in text. A) Mucheka 1 (Mashonaland East. Garlake 1995: 53); B) Man holding up likely plant material at the opening of a formling (Toghwana Dam 1, Matabeleland South. Pager 1973 fig. 5 in Mguni 2015: 27 fig. 14); C) Ngomakurira 1 (Mashonaland East. Redrawn from photograph courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA. Edited: cropped); D) Goromonzi (Mashonaland East. After Garlake 1995: 60).

A plant's power can come from its medical properties, and magico-religious (either containing supernatural potency or having other “non-real” or perceived) healing properties, as well as aiding novices to enter trance (Lee 1993: 115). A plant’s psychotropic qualities could be one reason that they had magical or supernatural qualities ascribed to them (Sobiecki 2002: 1; Stafford *et al.* 2009: 324), but as Mguni (2009: 142) rightly points out, without a species level identification, one cannot use possible psychotropic qualities as the sole reasons for the trees being painted.

2.5 – Plant Charms

Unequivocal depictions of plants used as charms (plants or plant parts that are used for their magico-religious properties) are rare but their depiction may be inferred with a fair degree of confidence from their context (e.g., Orpen 1874: 10; Pager 1976: 46; Vinnicombe 1976 fig. 239). These charms are most likely bundles of aromatic herbs (Lewis-Williams 1980; McGranaghan & Challis 2016: 594) used to placate rain animals, allowing them to be captured and led over the land to make rain (Lewis-Williams 1977: 166; Mguni 2002: 165; Lewis-Williams & Pearce 2004b; McGranaghan & Challis 2016: 590), as well as for other purposes. Plant charms are depicted as ovoid leaf-like shapes, or fan-like shapes. In the Zimbabwean context these plant charms appear in a greater diversity of forms (discussed in detail in subsequent chapters) and are used to mediate the relationships between the typical rain-animals, along with antelope, elephants, as well as trees.

2.6 – Phytanthropes

One of the most interesting and, to date, understudied subsets of botanical motifs are phytanthropes (from the Greek *phytos* - pertaining to plants, and *anthropos*- human). Phytanthropes are beings that combine the features of humans and plants, similar to the way that therianthropes combine features of humans and animals. Depictions of phytanthropes are rare, and in Africa appear to be unique to the rock art of Zimbabwe (van den Heever 2020: 48). Hubbard (2013: 16) only briefly mentions these “plant-like idolons” noting their association with formlings and flecks.

Botanical motifs are an understudied topic in rock art research in southern Africa despite their prevalence in various ethnographic sources. Their meanings and associations with other motifs in hunter-gatherer rock art has been studied with various degrees of accuracy. It is only by looking at the art through the lens of the shamanistic model, informed by relevant ethnographic material from southern African hunter-gatherer societies, as well as New Animism, that one can interpret them based on likely emic perspectives. This allows for a fuller and more meaningful interpretation of botanical motifs and can be used to complement our understanding of hunter-gatherer beliefs using the methods outlined below.

CHAPTER 3 – METHODS

The principal method I use combines three lines of evidence. Mguni (2002, 2009) successfully uses this approach to elucidate on the meanings and roles of trees and formlings in Zimbabwean hunter-gatherer rock art. The first line of evidence is a formal study of botanical motifs using their morphology and natural models. The second is an analysis of botanical motifs in their painted contexts and their associations with other motifs. Finally, there is an analysis of San symbolic and idiomatic systems, ontologies, rituals, and beliefs pertaining to plants.

The research for this project began with a review of published and unpublished literature, tracings of rock art, and the ontologies and folkloric traditions of southern African hunter-gatherers, particularly those pertaining to plants. It became readily apparent that botanical motifs, in various form, are present in seven of the ten provinces of Zimbabwe and that large-scale analyses are necessary to do justice to this understudied area of research.

I examine a diverse collection of graphical material taken from a wide range of sources. Due to the scope of the research area all credible sources were consulted. I have trawled through online archives (SARADA, the Frobenius Institute, the British Museum, as well as Flickr) for photographs, tracings, redrawings, and historical copies, as well as photographs from Jeremy Hollmann, Siyakha Mguni, and amateur rock art enthusiasts. I have also located tracings and redrawings in the RARI archives as well as published material by Garlake (1987, 1990, 1995), Walker (1996), Cooke (1971), Goodall (1959), and Mguni (2001, 2009).

For practical and ethical reasons this study relies exclusively on archival sources. Fieldwork across the entirety of Zimbabwe is impractical because of time constraints, logistical difficulties, inability to enter Zimbabwe because of border closure due to SARS COVID-19, and a lack of resources available in Zimbabwe. The latter factor ties into (and cannot be separated from) the ethical concerns. At the time this research commenced, the country was (and is) experiencing a severe economic crisis (hyper-inflation, and a lack of currency), resulting in shortages of food and fuel. This dire state of affairs coupled with the tumultuous political situation means that research on the scale that was envisaged is not currently feasible. I could not justify using what little there was of these scarce resources that are available in Zimbabwe.

Fortunately, the sheer amount of material available is more than sufficient for this research. I have amalgamated this material into a single database. To facilitate comparison of items in the database, material from disparate sources and in different formats has been converted into modern, and standardised formats (discussed in the following section).

3.1 – Source Material

Multiple sources of graphic material are used in order to gain a better understanding and create a more complete database. The sources used are photographs (film and digital), tracings, ink redrawings, and historical copies. Each source has its own set of pros and cons, which I discuss below. It should be noted that although the level of detail and accuracy of the recorded artworks is extremely important, this alone is not enough; the images must be interpreted within the context of San hunter-gatherer ontologies.

Originally, I used historical copies, tracing, and photographs for sites but subsequently I realised that using historical copies and tracing as the sole record for a panel or site was not reliable. I have subsequently removed all sites with only historical copies or redrawings from my analyses. Sites with multiple copies from separate authors e.g., historical copy and a redrawing are used if these seemed to corroborate one another. Redrawings, even those from reputable authors (e.g., Mguni, Garlake, Walker) are not used when they are the only recording of a panel or site because redrawings tend to make images seem clearer or they leave out motifs that are not pertinent to the authors' research. They are not best used for determining associations. I use redrawings that I have made from photographs, or those from authors at sites I have photographs of, throughout most of this dissertation, because they make the images and motifs clearer and more distinct. The photographs of these sites and those I used to make the redrawings are all included, along with historical copies and all images with botanical motifs, in Appendix A.

3.1.1 – *Historical copies*

Historical copies are physical graphic reproductions of rock art panels, made in the late 19th and 20th centuries, prior to the development of other methods. The media commonly used for

these copies were paper, watercolour, pencil, crayon, ink, and stencils. These media were used because at the time photography was expensive, and lacked the quality, detail, and colour (Guy & Wintjes 2009: 64) needed for rock art recording.

These copies are useful as they create a record dating back close to a century. They enable us to see how the paintings might have been at that time, and they provide a useful record of how they have deteriorated or been damaged over time providing that the copyists did not themselves add (or omit) details in the rock art, as is sometimes the case.

Copies are inherently subjective (more so than other recording methods such as photography and direct tracing) as they are not precise, faithful reproductions, especially with regards to scale and content. Very few of the copies were traced directly from the rock face (Keene 2011: 17), and in some cases, copyists omitted motifs and ‘corrected’ details in these images to what they thought was right. Images that are far apart on a panel were recorded closer together, or figures from a panel were recorded separately, and details of the rock face (steps, cracks etc.) were left out. This can be seen in some of the copies even by reputable copyists such as Joachim Lutz and Elisabeth Goodall, who Michael Raath (1971: 1–6) and Garlake (1993: 15, 1997: 47) said had produced some of the most detailed and precise copies. Since copyists usually had little knowledge of San beliefs, mythology, and idioms, these omissions and corrections often altered the meaning of the art (Mguni 2002: 81). For these reasons I have not used unverified historical copies for my analyses of botanical motifs.

3.1.2 - Direct tracing and ink redrawing

Direct tracings are made using semi-opaque tracing film and light pencils. Images or entire panels are painstakingly traced, with their colour, fading, superpositioning, and damage (flaking, mineral wash, anthropogenic damage etc.) marked. The outlines of the images are traced, and their colours are labelled. This is a time-consuming process, and although it is more accurate than freehand copying it is nonetheless subjective (Hollmann 2018: 167). The copies are the basis for ink redrawings, using standard conventions of stippling to show colour. There are limitations to this method: the images are removed from their context on the rock face, and the outlines and distinctions between images are made clearer and more distinct than they are on the rock face. This method makes the lines sharper and clearer than those of the original

image (Guy & Wintjes 2009: 75) and are therefore useful for analysis (Le Quellec *et al.* 2015; Hollmann 2018: 161). Tracings and redrawings of both published and unpublished material were done by Mguni, Garlake, and Walker.

3.1.2 – Photographs

Photographs, both historical and modern, are used in this dissertation. Historical photographs were taken during the Afrika Expedition, led by Frobenius, in 1929–1930. The panels were recorded on 16mm film (Keene 2011: 17). The low resolution and lack of colour renders these photographs useful only for more general analysis and for comparison with the historical copies.

Digital photographs are sourced from SARADA, the British Museum, the Frobenius Institute, as well as from individual researchers (Jeremy Hollmann, Siyakha Mguni, and Ancila Nhamo) as well as private photographers and rock art enthusiasts (Ian Withnall, Nicole Calame-Darbellay, Lyle Tatum). High resolution (Raw, Tiff) digital photographs, from the sources mentioned above, are used for the documentation of rock art sites. This method of recording and digitally enhancing images has become the standard for rock art recording (e.g., Hollmann 2018: 157). The use of image enhancing software and algorithms such as Adobe Photoshop, and D-Stretch (see <http://www.dstretch.com/AlgorithmDescription.html>), allow certain details that are now difficult to see with the naked eye to be made clear. D-stretch is a plugin of ImageJ, developed by J. Harman, and is used to enhance pigments, especially red and orange pigments, and this has become an indispensable tool to aid in the depiction of rock art (J. Harman 2005; Hollmann 2018: 159). The use of digital photographs has many benefits over physical tracing: it allows the recorder to initially record more images in the same period of time, images can be enhanced showing details that are now invisible to the naked eye, the recorder can zoom into and layer images, images can be enhanced and traced back in the studio reducing the amount of fieldwork time, it includes features of the rock face in high detail, and most importantly it negates any contact with (and possible damage to) the rock face (Hollmann 2018: 159). Digital recording and enhancements, like other methods of recording, are still subjective, due to the nature of focusing on certain aspects pertinent to a research question, and the subjective nature of choosing outlines (Le Quellec *et al.* 2015; Hollmann 2018: 161). Image enhancement algorithms are a tool that must be used in conjunction with the relevant ethnographic materials

as a means of interpretation. In order to avoid or mitigate any biases and errors, I have followed the method laid out by Le Quellec *et al.* (2015), which has been used successfully in the southern African context (e.g., Hollmann 2018). This method involves the following:

1. An unenhanced version of the rock painting should be published alongside the enhancement or digital tracing
2. Any additions or modifications to the image should be noted

The procedures followed to create the enhanced image or tracing should be made explicit.

3.1.3 – Digital redrawings

The digital redrawings I produced are made in Adobe Photoshop CS4, using a Wacom Cintiq 22HD digital tablet with an interactive pen display. The source materials are historical copies, tracings, ink redrawings, scanned film photographs, and digital photographs. Digital photographs are enhanced using D-Stretch and contrast settings in Photoshop. Each version of the image, and each redrawing colour (e.g., red, white, yellow etc.) is placed on a separate layer. Whichever version of the image makes a specific colour, or section, of the panel clearer, is used. 163 photographs were digitally redrawn. I use similar conventions to ink redrawings, but I use grayscale in place of stippling to depict colour for the majority of panels and figures, especially where the original had small dots and flecks, to avoid misrepresentation of these features.

3.2 – Morphology and Natural Models of Botanical Motifs

The first step I use to gain understanding of botanical motifs, and therefore the role of plants in various aspects of hunter-gatherer lives, is twofold: a formal (i.e., Western taxonomy, or predetermined categories) and an informal (likely emic categories) identification. Botanical motifs are painted with varying degrees of detail and embellishment (Mguni 2002: 153). I have therefore classified the botanical motifs into categories based on their morphological features. The categories are useful for classification of the motifs, although they are unlikely to reflect the exact categorisation used by the hunter-gatherers of Zimbabwe. The main types of botanical motifs identified are trees, underground storage organs (USOs, i.e., roots, tubers, bulbs etc.), flowers, fruits, leaves, mushrooms, and phytomorphs.

Rock art motifs are not literal representations, however; they are ‘real’ things or objects which are representative of, and relate to, a multiplicity of culturally specific concepts (Lewis-Williams 1998: 89), which are modelled on natural forms (Pearce 2009: 338). The concept of natural modelling in hunter-gatherer societies is grounded in a shamanistic worldview that sees the natural world as a rich source of information and inspiration (Whitley 1994). Natural models are identified by their morphological features (Mguni 2004, 2006a: 53; Hollmann 2005a). These features are often not ones that are most obvious or useful to those using Western taxonomic classifications (see Heinz & Maguire 1974; Mguni 2004, 2015: 79). Nonetheless, a certain level of identification is vital to understand the significance of the imagery, as without knowing what they are (i.e., which category they fall in) one cannot move on to what they mean in any meaningful way. Furthermore, identification based on Western taxonomy can be useful to understand specific behaviours or properties of the model and to aid in finding the correct emic classification in the pertinent ethnographic material (Hollmann 2005a: 26). Where possible I identify plants to a genus or species level founded on a detailed analysis of the morphological features in the motifs as well as an understanding of how depictions of real plants would be stylised in order for them to be identifiable when painted. Once identified, research on the depicted plant’s chemical properties, growth habits, role in the environment and local ecology can be pursued. This investigation includes the use made of the plant by hunter-gatherers today as well as local indigenous uses.

3.3 – Typology and Identification

I categorise these motifs based on morphological features, specifically of certain plant parts i.e., roots, trunks, leaves, and so forth, but this has proven problematic in many ways, largely owing to Western botanical categories used to differentiate between these plants, which are indubitably not the features that were used by the image makers. I apply this method because I use morphological features of the rock art as the basis for the identification and then cross-reference this with the relevant San ethnographic material (as laid out in Chapter 3). In doing so it has become clear that using formal (i.e., Western taxonomical) identification has its limits both in its ability to classify these motifs and in its usefulness for interpretation. I move away from a strict taxonomical identification and to a less rigid system that does not rely on identifying a plant to its genus or species. This has proven to be the most useful method thus far because of the lack of relevant and culturally-specific emic classificatory systems and

criteria. That said, this method must be used solely as a starting point and interpretations must then be informed by the San ethnographic material.

Other classificatory systems that align with current emic categories were considered, such as classifying plants by their uses (e.g., Medicine, food, building materials, hunting poisons, *inter alia*) or by using systems employed by extant San and hunter-gatherers. The main challenge with the former is that a single plant has a multiplicity of uses, some of which are not universal amongst San groups, and thus in using this any classification would be difficult if not impossible. The main challenge with the latter is that (as seen from ethnographic records) it is near impossible to write about one aspect of San life without having to discuss all the others (Lewis-Williams 1976: 33; Katz 1982: 27–28). For example, Ansie Hoff (2011: 44–46) records that some of the !Xam classify the world in terms of wet (Rain, water, ‘things of the rain’ or ‘water things’) and dry (game animals, veld medicine, *inter alia*); this system is near all-encompassing and it is difficult to delineate one aspect from the other. In order to produce a coherent analysis of the role of the botanical world in the cosmology of Zimbabwean hunter-gatherers, I use the following systems for the interpretation:

Formal identification of botanical motifs has been the focus of most of the research into this topic. These key features (from a Western taxonomic point of view) are often not the features that defined a particular plant for the indigenes, or they do not emphasize its most important features, as is seen with the plant drawings made by the !Xoõ (Heinz & Maguire 1964). This dissonance has led many to abandon the topic in the belief that identification of most of the plants is simply not possible (Garlake 1995: 8; Walker 1996: 32; Hubbard 2013: 16). The assumption that the formal identification of a plant is the key to understanding its meaning is shared by many ethnographers (e.g., Tanaka 1976: 112–113; Lee 1979, 1993; Katz 1982; Sobiecki 2002; Mitchell & Hudson 2004) and is understandable, and very difficult to move away from, coming from a Western perspective. While important, however, I argue that this diverts attention away from what is truly important: the emic botanical classifications (i.e., what and, in some instances, who the plants are), which are largely determined by their perceived roles and functions.

The use of Western taxonomic identification to categories botanical motifs is not without its merits. The benefits of this method of identification and classification are fourfold:

- First – it allows outside researchers to speak in terms understandable to one another.
- Second – to identify a plant's taxa to ascertain whether they are important because they contain medicinal or psychoactive compounds, or because they hold some other cultural or symbolic meaning (Mguni 2009: 142).
- Third – it allows one to use current ecological knowledge to understand the role a plant plays in the ecosystem (Mguni 2002: 150–151) and so can point to biological plant-plant and plant-animal relationships (see Chapter 6).
- Fourth – it allows one to use relevant ethnographic material collected from other groups to help inform on the potential uses and meaning of these plants.

This fourth point is particularly useful because there is no ethnobotanical record of the hunter-gatherers of Zimbabwe. I use ethnobotanical information from other hunter-gatherer groups in southern Africa, and from past and present farming communities in Zimbabwe to help inform on probable plant uses and beliefs to redress this.

The first step in identifying motifs as botanical is the assumption that the image-makers intended these motifs to depict plants which I based on the presence of various morphological features indicative of plants. The second is the identification of the plants or the classes of plants they likely represent. Once identified one can hypothesize on the various roles plants played in the lives of Zimbabwean hunter-gatherers. Identification is based on emic categories and, when possible, formal Western taxonomy which is the starting point for my interpretation of botanical motifs. This is because without knowing what a plant is one cannot elucidate on its uses and the cultural and symbolic meanings that these uses have.

I have divided the content of botanical motifs into seven categories: trees, underground storage organs (USOs), leaves, fruit, flowers, mushrooms, and phytomorphs, each with their own subcategories. As hunter-gatherers, the image-makers would have relied heavily on plants for both food and Medicine. Botanical motifs that might not be identifiable to us now were apparent to the communities that produced them. In cases where a plant can be identified taxonomically one can investigate whether they were valued because they contained useful chemical compounds, or because they held some other cultural or symbolic meaning (Mguni 2009: 142). Owing to the stylised nature of the botanical motifs, taxonomic identification is challenging and in only a few cases specific diagnostic features have so far been produced. In

some rare instances, botanical forms have been identified previously. For instance, a palm (*Hyphaene natalensis*) has been identified by Mguni (2009: 140) in Zimbabwe. Goodall (1959) identifies a botanical form found at a site in Mucheka 1, Mashonaland East as *Kirkia acuminata* (Goodall 1959: 76; Mguni 2009: 140). Botanical motifs were intentionally painted with differing levels of detail, with some being easily identified to a specific plant or class, and others being ambiguous or generalised (Mguni 2002: 165). The plants depicted may be conflations of multiple plants and in some instances are not ‘real’ plants but supernatural plants found in the spirit-world (Jeremy Hollmann, *pers. comm.* 2020).

Still, I argue that all botanical motifs are identifiable, although not in the Western taxonomical sense. What appears to be a bare or ‘featureless’ tree may, in fact, be a tree with all extraneous details and features removed to highlight more culturally important ones. The image-maker’s intent was to convey culturally significant attributes, and not necessarily a specific species or group. It is the associations with other themes and motifs, and how those associations and relationships interact with the ethnographic material that provides insight into the meanings of these motifs.

Associations are determined by how often and in what context botanical motifs are painted with other motifs, specifically, but by no means exclusively, humans, formlings, flecks, tsessebe and sable, and ‘things of the rain’ (discussed in Chapter 6). The juxtaposing of human and therianthropic figures interacting with botanical motifs by climbing, touching, lying under, and consuming them is crucial to understand their meaning.

3.4 – Analysis of Botanical Motifs in their Painted Contexts and Associated Motifs

Botanical motifs rarely occur in isolation. It follows therefore that in order to fully understand the significance of plant motifs to the hunter-gatherers of Zimbabwe, one must understand the intricate web of connections they have with associated motifs, especially depictions of animals. In order to explore these connections and associations as fully as possible, identification and interpretation of associated/juxtaposed animal motifs is necessary. I examine these likely associated motifs through the identification of their natural models which includes morphological characteristics and genera/species-specific behaviours.

In order to study a specific motif or theme, one must isolate these from other motifs, thereby breaking the component images down to “units of analysis” (Mguni 2002: 76–77) (e.g., kudu, trees, formlings). Although this process is unavoidable it does bring with it several limitations and complications. The selection process removes the chosen motifs from their original context on the rock face and severs their associations with other images. The result is an artificial separation of themes. It is most likely that all the images in an assemblage interact with each other; the process of selecting and isolating specific images is thus fundamentally selective. This selective process results in motifs that (at the time) seem unrelated to the research question being left out of the interpretation. It is not possible to describe every image in a panel and so researchers must leave out what does not apply to their research question. It is because of this that San ethnography must be used to inform the selection of associated motifs (Mguni 2002: 81). To mitigate these biases within the study of botanical motifs, any isolated images are noted as such. Where possible all available versions (historical copies, photographs, tracings, and redrawings) of a panel have been included in Appendix A.

3.5 – Quantitative Analysis

I record the type of botanical motif, what category they fall into, the site’s location, and the associated motifs for each site (see Table 1, Appendix B). These data are used to help identify patterns in the imagery, specifically how numerous these images are and the frequency in which types of images are painted together, as well as their spatial distributions across the country. The use of quantitative data is a useful method especially when considering the wide distribution of botanical motifs, and that it is not feasible to describe each figure of a panel in detail. The quantitative data summarizes large amounts of data into understandable formats. It must be stressed that the collection and analysis of these data is (and must be) informed by the relevant ethnographic material.

I do not use this quantitative data as the sole source for interpretation, as the frequency of a motif does not necessarily equate to its degree of importance (Lewis-Williams 1984, 1990b, 1995b; Garlake 2001). That being said, it is still useful, as high numbers can lead to questions of why something might be important. It is used in this manner in the Drakensberg with the eland (Vinnicombe 1967; *cf.* Lewis-William 1984, 1990b, 1991; Lewis-Williams & Loubser 1986). For instance, the ubiquity and high numbers (along with their size and centrality to other

motifs) of elands recorded in the Drakensberg rock art led to the questioning of why the eland motif was so wide-spread, numerous and elaborated in comparison with other image categories. These quantitative data were incorporated into an ethnographically informed approach that led to a major change in the interpretation of southern African rock art.

These data, especially frequency of association between categories of motifs, are used as a starting point to find connections between motifs and were used within the framework of the ethnographically-informed approach (Garlake 1998, 2001), and are not used solely for interpretation (Nhamo 2014: 101). The number of sites where paintings of botanical motifs occur and how often specific motifs are painted with them are used to find the frequency of association (see Table 1, Appendix B). This is based on sites with botanical motifs available from archival sources and not on how often these motifs occur in Zimbabwe, as this is out of the scope of this research topic. For example, I recorded how often tsessebe are painted at sites with botanical motifs rather than how often tsessebe are painted and how often these are then painted with botanical motifs. Presence-absence values were used to determine the strength of relationships between the two motifs. Presence-absence values are used, instead of the number of figures, because the exact values do not indicate importance (Lewis-Williams 1984, 1990b: 128, 1995b; Garlake 2001), and the possibility of miscounting or misidentifying motifs would skew the results.

Associations between images are determined by their relationship to one another on a panel or friezes—a panel is somewhat subjective, but I refer to a panel as the set of paintings in a single rock shelter. Bonneau *et al.* (2017) have shown that paintings on the same panel in Phuthiatsana valley Lesotho, Maclear district in South Africa, and Thune Dam in Eastern Botswana were painted in separate episodes, hundreds to thousands of years apart. For example, individual images from the same rock shelter in Botswana TD2 were painted millennia apart with the earliest dated to 1276–962 BP and the latest to 2320–1878 BP (Bonneau *et al.* 2017: 12). This is likely the case with the rock art of Zimbabwe, given the ranges of paintings. No direct dates have been obtained for the Zimbabwean rock art, but painted spalls were found in stratified deposits with directly dateable material in the same layer which Walker (1996: 13) dated to between between 14 000 and 10 000 BP for Pomongwe Cave (Walker 1996: 14). He concluded that most paintings in Matobo dated between 10 000 to 8000 BP (Walker 1996: 14). Even if the images were painted thousands of years apart, the fact that the second artist chose to paint a motif in a specific place is meaningful; subsequent painters placed the images with intentionality emphasising or altering the meaning(s), by bringing to the fore or alluding to

specific idioms or concepts of the motifs already in place and the frieze as a whole (Lewis-Williams 1998: 88). Motifs painted near, juxtaposed with, or superimposed over another can show a relationality between them, especially when these motifs have some connection (e.g., what they are modelled on have a connection).

Quantitative data are used to indicate regional trends in both the types of botanical motifs present and their associations. These differences are important as they can help to elucidate how different groups within Zimbabwe ascribed meaning to different plants (Bieseke 1975: 164; Heinz 1975: 2, 4; Jolly 1983: 90; Nhamo 2014: 81). To this end distribution maps of the various types of botanical motifs are made (see Chapter 6).

3.6 – Limitations

There are several limitations to covering such a broad topic, on motifs found across much of Zimbabwe. Due to political instability and closed borders because of the COVID-19 pandemic, I was unable to conduct fieldwork in Zimbabwe. Although there is a wealth of archival material, including historical copies, tracings, redrawings, and photographs, field work has numerous advantages to purely archival research (see Chapter 3 section 1). I could not verify the numerous historical copies of plants which would potentially have added another 74 sites and 241 motifs to this analysis. Due to time constraints I had to limit the number of sites I used for my analysis as I kept finding more material and new sites with botanical motifs. The final limiting factor was the word limit of this MSc. Botanical motifs touch on many different aspects of hunter-gatherer beliefs and consequently I was restricted to focusing on a few most obvious ones. I could not conduct comparative analyses with botanical rock art found elsewhere in southern Africa and in Australia.

3.7 – Analysis of San Symbolic and Idiomatic Systems, Ontologies, Rituals, and Beliefs Pertaining to Plants.

Ethnographic material from hunter-gatherers of southern Africa is pivotal to this research and is fundamental in informing and guiding my interpretations. Ethnography pertaining to plants

is my primary line of investigation, but it soon became apparent that a much broader study of San ethnography is needed, because plants and the various beliefs around plants are inextricably connected to other aspects of San beliefs.

Ethnographic records of San and hunter-gatherer groups from southern Africa are studied, as well as linguistic studies, from Jul'hoān, !Xam, Maloti San, Batwa, Masarwa, !Xoõ, G!wi, Nharo, Kxoe, and !Kung groups. This is done in order to get a broader comparative framework for understanding the role of plants for hunter-gatherers since, as Nhamo (2014: 56–57) states, there is a high level of variability between San groups in the same area.

CHAPTER 4 – ETHNOGRAPHIC CONTEXT FOR BOTANICAL MOTIFS

Plants are an intrinsic part of all peoples' daily lives as food and medicine as well as being central to many cultural practices; this is equally true for hunter-gatherer groups in southern Africa. There is a high level of diversity in these uses and beliefs and so I analyse several different ethnographic records of San and hunter-gatherer groups from southern Africa. Here I draw on ethnographic material, as well as linguistic studies, from Jul'hoān (previously known as the !Kung or !Kun), !Xam, Maloti San, Batwa, Masarwa, !Xoõ (previously known as the !Kō), G!wi, Nharo, Kxoe, and ≠Khomani groups. In this way I establish a broader framework for understanding the role of plants in the lives of hunter-gatherers, since there is a high level of variability even between neighbouring San groups (Heinz 1975: 2; Jolly 1983: 90; Garlake 1995: 46; Mguni 2006a: 53; Nhamo 2014: 65–68), as well as to avoid essentialising or homogenising hunter-gatherer cultures. These regional differences can possibly lead to an understanding of how various groups within Zimbabwe saw the botanical world, or how different vegetation found in these areas were incorporated into a wider and more general belief system.

Hunter-gatherers use plants as sources of food, water, shelter, as well as Medicine (medicine, magic, and for trance) which is explained in the subsequent section. Most plants fall into two or more of these categories (LL.II.36.3242-3261, LL.VIII.1.6082, LL.VIII.7.6679v, LL.XI & XII.5.9381v, LL.XI & XII.7.9573-9580; WB.XXVII.2539v). Below I briefly outline what each of these uses entail before discussing them on the basis of the categories I have determined, founded on the botanical motifs in Zimbabwe: trees, underground storage organs, fruit, sap, leaves, and phytomorphs.

There are approximately 1400 edible plant species in southern Africa (Cowling *et al.* 2004: 492), with at least 200 being recorded to be used by people (Tredgold 1990 in Jonsson 1998: 81). Thayer Scudder (1971: 19) recorded 215 edible plants, of which 131 are recorded to be eaten in Zimbabwe. Plants are the main source of food for hunter-gatherers in southern Africa (Lee 1965; Silberbauer 1965: 44–47; Tanaka 1976: 112–113; Hitchcock 1982: 205–223; Giess & Snyman 1986: 240; Guenther 1989: 15; Bieseke 1993: 41; Hewitt 2008: 34). Edible plants feature in ethnographic material collected in the Northern Cape and the Kalahari (LL.VIII-18.7553v-7554v, LL.VIII.27.8395; Hollmann 2004: 277; Hewitt 2008: 34), for instance the

Kalahari San rely heavily on geophytes as food throughout the year, but more so during prolonged periods of drought (Bieseke 1975: 20; Cowling *et al.* 2004: 481). Plants are also sources of water which are vital in the arid regions; *tsamma* melons (*Citrullus lanatus*) and geophytes are sources of water (Estes 1991: 138; van Wyk & Gericke 2000: 81, 99–116; McGranaghan 2012: 76).

San groups from the Kalahari, Brandberg, Tsodilo Hills and further south in South Africa all seem to have placed a greater cultural significance on meat, or rather on the animals whose meat it is, despite their heavy reliance on plants (Marshall 1957: 236; Bieseke 1975: 202; 1993: 95; Mguni 2002: 62; Guenther 2020: viii, 179). This is evident both from ethnographic records and from the prominence of these animals (and the lack of botanical motifs) in the rock art of these regions. This emphasis highlights the importance of these animals and of human-animal relationships for these groups. The ubiquity and diversity of botanical motifs in Zimbabwe is indicative of a major difference in human-nonhuman relationships with plants as well as animals being of similar importance. Southern African hunter-gatherer groups use plant fibre for housing, bedding, cordage, weaving, and occasionally clothing (although animal skins are the preferred material in the Kalahari (van Wyk & Gericke 2000: 297–326; Sievers 2006; Orwa *et al.* 2009: 2). Plants are also used as sources of dyes, pigments, paint binders, and in the tanning of skins (van Wyk & Gericke 2000: 247 – 261; Orwa *et al.* 2009: 2; Bonneau *et al.* 2011: 420).

Plant Medicines

The dichotomous classification of medicinal plants as those that treat physical ailments and plants used for ‘non-real’ reasons or to treat non-physical symptoms, creates a false distinction that is not reflected in San ethnographic records (Hutchings 1989: 228–9; Lee 1993: 121; Marshall 1999: 53; Hirst 2005: 14; Sobiecki 2002: 25; Keeney 2003: 114–115; Hollmann 2004: 301; Mitchell & Hudson 2004: 47; Challis 2014: 251). I therefore use the term ‘Medicine’ (with a capital ‘M’) to encompass the use by foragers of plants to heal both physical and non-physical ailments. Plant Medicines are used to treat physical ailments, but are also Medicines that help one enter trance or give the ritual specialist potency to heal the sick, whether from physical, psychological, or social illnesses (Lewis-Williams 1986: 173; Garlake 1987a: 179; Guenther 1989: 188; Walsh 1990; Sobiecki 2002: 1; Keeney 2003: 29; Mguni 2015: 147).

There are between nine (Mitchell & Hudson 2004: 53) and 15 (Lee 1979; Katz 1982: 51) plants that have been documented as being used by the Kalahari San groups as medicine specifically to help induce trance or replicate the physical feelings of trance such as the sensation of *n|om* (the Jul'hoān term for supernatural potency) boiling in stomach. Many of these, as well as others, also contain *n|om* whether or not they contain psychoactive compounds (Ellenberger 1912: 8–9; Katz 1982: 281–294; Guenther 1989: 44; Winkelman & Dobkin de Rios 1989; Marshall 1999: 52; Keeney 2003: 51; Mitchell & Hudson 2004; McGranaghan 2012: 483–5). Looking at the etymology of *n|om* and its associated metaphor of boiling in one's stomach, also "... refers not only to boiling water, but also to the ripening of plants" (Lee 1967: 33, 1968: 43) providing another strand of evidence to link plants and potency.

4.1 – Trees in San Mythology and Cosmology

Trees are a common and potent botanical form in San mythology and cosmology. Trees are often situated in 'God's house', or they are used as a means of access to God (Thomas 1959: 79; Bieseke 1978: 929–933; Guenther 1999: 188; Marshall 1999: 21; Keeney 2003: 42, 83; Mguni 2002: 167–169). This emphasis on trees is reflected in the rock art (Chapter 7). David Whitley (1994) argues that there are three concepts that are central to anthropomorphic symbolic systems: power, liminality, and trait analogies. Mguni (2002, 2006a, 2009) is the first to link these concepts to arboreal motifs in Zimbabwe and discuss how these motifs interdigitate with other motifs and wider San beliefs. He argues that liminality is perhaps the most useful concept in understanding the role of trees in Jul'hoān society (Mguni 2002: 51, 2006a: 63, 2009: 143). Trees can transcend physical and spiritual worlds, in the three-tiered cosmos of the San (e.g., Lewis-Williams 1994: 278; Whitley 1994; Mguni 2006a: 63). These features allow for trees to be used for travel on a vertical axis and are highlighted by removing all other detracting structural details of the tree, such as the leaves and fruit. The act of using trees for vertical travel features in San cosmology (Bieseke 1978: 929–933; Guenther 1999: 188) and is likely a metaphor for traveling either underground or into the sky, which are common during out-of-body experiences in trance (Orpen 1874: 8–10; Bieseke 1978: 929–933; Whitley 1994: 24, 26; Guenther 1999: 188; Mguni 2009). Lateral roots of trees often create a 'ground level' and, further, help demonstrate what is underground (Mguni 2009: 140).

Trees are mentioned in the creation myths of various San groups, for example:

‘... [The] Glwi tale in which the trickster Pisiboro climbs up a super-natural tree, *Acacia erioloba*, to join his two wives awaiting the original procreative encounter. They conceive, and when the children are born, they drop from the branches like fruit’ (Thomas 1959, 79)’ (Mguni 2009: 145).

The !Xoõ, according to Heinz (1975: 21 in Mguni 2002: 169), believe that their creator made them from wood. The San of the Lower Orange River (Stow 1905: 130–131) who William Coates-Palgrave (Stow 1905: 130–131 in Mguni 2009: 144) recorded, recounted a creation myth in which the first people and animals are said to have emerged from the ground beneath the roots of a tree.

The Jul’hoānsi believe that there are two gods. The big god *ǃGao n!a*’s house is said to have a mystical gigantic tree in the middle, which is exceptionally strong (Marshall 1999: 21, 314) and is ‘associated with the spirits of the dead’ (Thomas 1959: 144; Marshall 1962: 236, 1999: 21, 314). The lesser god’s house has two smaller trees (Marshall 1999: 25). As Mguni (2009: 145) observes, ‘Although they are unlike any natural tree, Lorna Marshall (1999: 25) deduced from her informants’ testimonies that these trees may be modelled on a species of camel thorn (*Acacia erioloba*, now *Vachellia erioloba*)’. These beliefs reaffirm that trees can be links to the spirit-world. *ǃXue*, a deity and mythological figure that features in several Jul’hoānsi myths, is almost always in association with plants (LL.XI & XII.5. 9362-9377, 9379, 9380v, 9381-9384, 9385-9391, 9391v, 9401v; LL.XI & XII.8.9608-9618, 9624-9626; Guenther 2019: 57), which is discussed in more detail in the phytanthropes section in this chapter.

According to Louis Fourie (1926: 49 in Mguni 2009: 145), it is a widely held belief in the Kalahari that there are spirits that reside in trees. The Nyae Nyae Jul’hoānsi believe that their deceased ancestors’ are turned into *ǃgauwa* (spirits of the dead) when their bodies and spirits are hung in a supernatural tree (which is medicine) and medicinal smoke blows around them (Marshall 1962: 222, 1999: 4). In Zimbabwe, there is a Shona belief that their ancestors’ spirits reside within certain *Mubvumira* trees (*Kirkia acuminata*) (Maroyi 2016: 2511). These instances re-enforce the role of plants (especially trees) as mediators between the spirit-world and the material world, and shows that this belief is not confined to the Kalahari.

4.2 – The Significance of Other Plant Forms and Parts for the San

Trees are not the only plant form that is significant for the San. Other plant forms such as underground storage organs, fruit, sap, and leaves play equally important roles. These are not taxonomic classifications but refer to specific plant parts (as opposed to the entire plant, be it tree, shrub, vine, herb). Below I provide relevant ethnographic information on these other plant forms.

In the absence of information about the indigenous plant knowledge of the hunter-gatherers that inhabited Zimbabwe, the traditional knowledge of the non-domesticated species used in extant farming communities may act as a proxy for understanding which plants were used by hunter-gatherers. The historical records and ethnobotanical studies show that wild plant foods are still an everyday part of the diet in many African countries, especially in rural communities (Getahun 1974; Campbell 1987; Zinyama *et al.* 1990; Campbell *et al.* 1997; Harris & Mohammed 2003; Teklehaymanot & Giday 2010 in Maroyi 2011a: 506; van Wyk & Gericke 2000; Shava 2005: 74–77). Wild plant foods are used to supplement the diet of farming communities, especially during in the dry season, and to help diversify a carbohydrate-heavy diet (Mabogo 1990: 140, 150–151; Maroyi 2011b: 5720, 5726).

4.2.1 – Underground storage organs

Geophytes are plants with underground storage organs (USOs), such as roots, tubers, corms, bulbs, and rhizomes. These are widely used among hunter-gatherers across southern Africa as a source of food, water, dyes, Medicine, and poisons (Bieseke 1975: 20; Neuwinger 1996: 11; van Wyk & Gericke 2000: 81; Cowling *et al.* 2004: 481; Philippe & Angenot 2005; Mannetti 2011: 60; Bradfield *et al.* 2015). Geophytes are of particular importance as their USOs are available year-round, even when the above-ground plant parts have died off during winter or the dry season.

USOs have been a very important food source for hunter-gatherers in southern Africa and for at least the last 30 000 years (Deacon 1993: 86). They are especially important in the arid regions of the country, where they make up the majority of plant food (Bieseke 1975: 20; Cowling *et al.* 2004: 481; Mannetti 2011: 60). Parry (2002: 19) argues that they would not be as important in higher rainfall areas in Zimbabwe (e.g., Matobo) where some forms of plant

foods are available year-round. However, although Zimbabwe receives a higher rainfall than the desert regions of southern Africa, rainfall is still seasonal with dry conditions persisting on average from April to October (Sayce 1987 in Gratwicke 1998: 25; Walker 1995: 23; Maroyi 2011a: 519). Therefore the importance of USOs as year-round food sources should not be underestimated. USOs are important sources of starch and carbohydrates, which are often not present in any meaningful quantity in other plant foods. They often require some form of processing but are very valuable as a food source and well worth the effort (van Wyk & Gericke 2000: 81). Below I focus on two which are most relevant to this research: *Cyperus* spp. and *Plectranthus esculentus*.

Cyperus spp. most notably *C. fulgens* is a geophytic plant with an edible corm which grows in a diverse range of habitats across much of southern Africa where it is widely utilized as a plant food (Mabogo 1990: 141; van Wyk & Gericke 2000: 86; Cowling *et al.* 2004: 478; Youngblood 2004: S51). It is prized for its flavour, ease of gathering, prolific spread, and high protein and water content (Youngblood 2004: S52). *Cyperus fulgens* along with other edible *Cyperus* spp. (e.g. *C. usitatus*) are quick to sprout leaves after even the smallest amount of rain (Youngblood 2004: S51) making it one of the first edible geophytes available to foragers. This quick production of green plant matter after rain is reminiscent of the !Xam terms *kerru* and *!kerru*:

‘*Kerru*; v. to become green, be green, sprout, n. grass, foliage, vegetation (Bleek, 1956:87); *!kerru*;, *!kerru*, n. blossom, blossomtime (Bleek, 1956:422). As this latter term suggests, this colour term was connected intimately with phenological responses following rainfall. This connection underpinned the positive characterisation of the colour; when the rain arrived, the green foliage caused the bad food to ‘grow out’ and brought the springbok, made the honey plentiful, and led to the ostriches laying the ‘*!kerru*’s eggs’ (LL.II.23.2052-2062).’ (McGranaghan 2012: 395–396)

The terms *kerru* and *!kerru* suggest a wider connection between rain, the sprouting of plants, and a remarkable increase in the fecundity of the land. *C. fulgens*, *C. usitatus*, and other unspecified *Cyperus* species have been recorded as traditional aromatics (van Wyk & Gericke 2000: 86; Cowling *et al.* 2004: 478) used by San and Khoekhoe groups in Namibia and Botswana. The deeply-held importance of scents, smells, and aromatic plants is discussed in detail in the subsequent sections. Another reason to focus on *Cyperus* species when looking at the rock art of Zimbabwe is that sprouting bulbous plant motifs closely resemble *Cyperus* corms.

Plectranthus esculentus (Livingstone Potato) is found through a wide range of habitats across most of southern Africa and as far north as Ethiopia. It is a much sought-after plant food because it is highly nutritious, adaptable, and can grow in almost every climatic zone (van Wyk & Gericke 2000: 94; Allemann *et al.* 2003: 37; Cowling *et al.* 2004: 477). *P. esculentus* is the most nutritious wild tuber in Africa: it is 80% starch, 13% essential amino acid, and high in other vitamins and minerals (SANBI 2020). Much like other members of the Lamiaceae it is highly aromatic. Along with its importance as a wild food crop and being aromatic its tubers grow in a manner resembling tubers found in the rock art of Zimbabwe.

USOs are an important source of hunting and fishing poisons (Neuwinger 1996; van Wyk & Gericke 2000; Philippe & Angenot 2005; Bradfield *et al.* 2015). San hunters used poisoned arrows to bring down their prey (Wadley *et al.* 2015: 1). The best known poison is that produced by the *Diamphidia* beetle larva (Schapera 1925; Hall & Whitehead 1927; Bleek 1928; Shaw *et al.* 1963; Neuwinger 1996; van Wyk & Gericke 2000: 237; Robbins *et al.* 2012; Wadley *et al.* 2015), which was often used in conjunction with plant poisons (Hall & Whitehead 1927) such as sap of *Strychnos* spp., *Euphorbia* spp. and *Boophone disticha*, *Asparagus exuvialis* tuber to form a composite poison (Wadley *et al.* 2015: 1). This beetle is restricted to the more arid parts of southern Africa, and so other arrow poisons are used in other regions. The most common arrow poison recorded to have been used in Zimbabwe and western Mozambique is produced from *Strophanthus kombe* (van Wyk & Gericke 2000: 244). The poison of *Strophanthus kombe* is used in conjunction with the juices from the *Gloriosa superba* tuber in Nigeria as an arrow poison (Neuwinger 1996 in Maroyi & van der Maesen 2011: 6116). Both *S. kombe* and *G. superba* are found across many of the non-arid countries of southern Africa. Minute amounts of *G. superba* bulb are used in Zimbabwe for treatments of tooth ache and snake bites (van Wyk & Gericke 2000: 208). The scales of *B. disticha* and tubers of *A. exuvialis*, *S. kombe*, and *G. superba* must be processed in order to extract the poison, and mixed with additives or adhesives in order for them to adhere to arrows (Wadley *et al.* 2015: 8, 15–19). These processes often involve multiple steps, but most often involve manual extraction (grinding, squeezing, pounding), heating, reducing (*ibid.*). These steps can aid in the identification of the USO depicted in the rock art, as we shall see in Chapter 5. *A. exuvialis* is first tapped to soften the tuber, then the juices are manually extracted and are boiled to reduce it to a thick paste or solid mass (figure 4.1. & figure 4.2.) (for a detailed description see Wadley *et al.* 2015).



FIG. 4.1. “The collection and preparation of *Asparagus exuvialis* additive at Eagle Pos. A. ꞑoma lKunta and luce Nꞑamce digging *Asparagus exuvialis* roots; B. ꞑoma lKunta softens a root by tapping it, luce Nꞑamce squeezes sap on the pot lid; C. The heated *Asparagus* sap is stirred until it reduces and darkens; D. Hardened *Asparagus* sap on the stirring stick; E. Grinding the hardened *Asparagus* sap to powder in the glenoid cavity of a scapula mortar.” (Wadley *et al.* 2015: 17).



FIG. 4.2. “Preparing arrow poison at Dou Pos. A. !lao ≠Oma cleaning the articular facet of a giraffe vertebra to be used as a container for mixing poison; B. !lao ≠Oma squeezing *Asparagus exuvialis* tuber; C. Heating the *A. exuvialis* tubers in hot ashes; D. Squeezing sap from the tuber into the vertebra containing poison grub viscera.” (Wadley *et al.* 2015: 18).

Richard Katz (1982: 52) records 15 plants which the Jul’hoānsi in the Kalahari use for trance-related purposes; of these, eight are geophytes. Apart from *Boophone disticha* these are all identified solely by their Jul’hoān name. These plants are !gwah (unidentified), !kaishe or gaise noru noru (*Ferraria glutinosa*), Mokgonastole (unidentified), zau (unidentified), mai (unidentified), *Boophone disticha*, and an unidentified parasite that feeds on roots of the Mokgonastole plant (Katz 1982: 292–293). !kaishe (Lee 1979: 469), *Boophone disticha* (Laing 1979; van Wyk & Gericke 2000: 156–8, 164; Mitchell & Hudson 2004: 50) Mokgonastole (Keeney 1999: 65), and its root parasite (Keeney 1999: 65–9; Mitchell & Hudson 2004: 41) have hallucinogenic properties. The hallucinogenic effects are a plausible reason for these plants to be used. Western scholars generally place great importance on visual hallucinations and out-of-body experiences, yet it appears that, for the San, the most important properties of such plants is not that they induce trance as per the dance, but that they replicate the somatic

sensations one feels when in trance, such as boiling and heat in the stomach, and shaking (Lee 1993: 121), their magical capacity (Mguni 2002: 161–162), or because they contain potency (Huffman 1983: 49; Lewis-Williams 1987: 166). This is based on the length and detail in which these effects were described as opposed to the visual hallucinations. This is not surprising when one considers how powerful the trance-induced experience is, and the emphasis the San place on the Great Dance at the centre of their religious beliefs and practices (Bieseke 1975: 5; Jolly 1983: 75; Garlake 1987a: 178; Guenther 1989: 33). Many San deny using hallucinogens (Silberbauer 1981: 203; Mguni 2002: 55–56). Whether this is because these plants are no longer used for that purpose (Katz 1982: 292–293), or because this detracts from the importance of the Great Dance is unclear. What is clear is that root Medicines were used for various purposes, most commonly to help people learn how, or give them the ability, to enter trance successfully (Shostak 2000: 269; Keeney 2003: 114–115; Mitchell & Hudson 2004: 42–43).

There is no need to view a plant medicines' physical properties and its perceived properties as separate from one another, because from an emic perspective all aspects of a plant are seen as a whole. Marshall (1999: 53) collected ethnographic material concerning this, an example of which is the root medicine *!kaishe*. For the Nyae Nyae Ju'hoānsi this medicine is owned by their gods and is made invisible to all except for a select number of healers whom the gods favoured (Marshall 1999: 53; Mitchell & Hudson 2004: 41). Once acquired, this medicine is mixed with the urine of *ǀGauwa*, a lesser deity and the messenger of the big God, in a tortoise shell and consumed. 'When a man drinks it, he may go mad for a while', but even if this does not happen he will acquire sufficient *n|om* to be able to enter trance and heal (Marshall 1999: 53). As discussed *!kaishe* has powerful hallucinogenic properties, and these likely result in the healer going 'mad', giving him a potentially dangerous amount of potency. But this is not seen as distinct from its ability to give a healer exceptional amounts of potency (in order to facilitate healing), or from this root belonging to the gods (Mitchell & Hudson 2004: 41). Plant Medicines must be understood in a holistic way and must be firmly grounded in ethnographic material. By separating these properties Western scholars have placed greater emphasis on a plant's psychotropic properties. Using this as the sole justification for a plant being painted in the rock art in southern Africa is hardly better than justifying a plant's presence in the paintings due to its economic/sustenance qualities.

The plant the !Xam called *ǀo-lōä*, is described in great detail by ǀKabbo in the Bleek-Lloyd collection (LL.II.36.3242-3261; Bleek 1931: 179, 1956: 182; Hollmann 2004; Mitchell and

Hudson 2004; de Prada-Samper 2007). From his description it has been tentatively identified as either *Pancratium tenuifolium* (Mitchell & Hudson 2004: 47) or as *Galium tomentosum* (Hollmann 2004: 278), both of which have recorded medicinal and spiritual uses. José de Prada-Samper argues convincingly that *ǃō-ǃǃä* is a class of medicine, some of which are botanical, rather than a specific species (de Prada-Samper 2007). This better aligns with the ethnographic material collected about *ǃō-ǃǃä*. This is corroborated by the work done by Sam Challis (Challis 2012: 276, 2014: 250, 2016: 9) in which he demonstrates that *so-ǃoa* or *ǃō-ǃǃä* (ǃXam), *ǃu-so~a* (Korana), and *uMabophe* (isiXhosa) are cognates and are linked not by their species, but are the name for an emically-classified category of root Medicine plants that share specific traits. In the Eastern Cape, for example, it is most likely to have been *Plumbago auriculata* (Challis 2014). Plants in this category have many uses (see Hollmann 2004: 277, 300; Challis 2014: 247). *So-ǃoa* plants share some superficial morphological features, in that the roots of stems are often red and contain tannins, but most importantly they share the same perceived properties (Challis 2014: 251, 255). *uMabophe* or *so-ǃoa* are categories and so plants that have these properties can be used in the same manner, depending on which are available (Challis 2012: 276, 2014: 250, 2016: 9).

The bulk of the information given by ǃǃKabbo about *ǃō-ǃǃä* was most likely about just one type, which was ǃǃkurrakənǃǃkurrakən (Bleek 1936: 144; LL.II.36.3242'; Hollmann 2004: 300; de Prada-Samper 2007: 1, 5). This *ǃō-ǃǃä* was not ingested but used as an everyday medicine, as a magical charm for protection, to bind or confuse enemies or prey, and to increase the user's accuracy with a weapon (Hollmann 2004: 277, 300; Challis 2014: 247). ǃǃkurrakənǃǃkurrakən was used to make things go on a "good path" whether that be an arrow when hunting, or people searching for honey (de Prada-Samper 2007: 7). ǃǃkurrakənǃǃkurrakən was introduced into the body by means of scarification, when ashes from the burnt root were rubbed into cuts on the hand or arm (Hollmann 2004: 277, 300; de Prada-Samper 2007: 7). Marshall (1999: 154) recorded a similar practice among the Jul'hoānsi where male initiates are scarified in a similar manner with a root Medicine at the start of their first hunt.

The use of ǃǃkurrakənǃǃkurrakən to make things go on the right path demonstrates that it is not only trees, but also other plant forms such as USOs, that allow for travel on various planes. Trees provide a means for travel on a vertical axis, as discussed earlier, but it is likely that other plant forms are used to travel in other directions. Keeney (2003: 33) provides summarised ethnography from San, and other informants, from the Kalahari in which they talk about plants

as sources of potency, possibly linked to a form of travel during trance (*cf.* Mguni 2006a: 64). Once in an intense trance state, ritual specialists can leave their body and travel along ‘ropes to God’, which are shining filaments of either red or white, leading to the spirit-worlds and to God’s house (Lewis-Williams *et al.* 2000: 129; Keeney 2003: 33; Mguni 2006a: 64). There are also green and red lines, running horizontally, that can be used for traveling to physical locations in the ‘real’ world (Keeney 2003: 33, 128, 144). ‘The green lines, related to the life of the green plants that help us sustain life, are good. They will take you along to the good path’ (Keeney 2003: 144). The use of trees as mechanisms for travel and mediators of the tier of the cosmos is but one aspect, although an important one, of their meaning in hunter-gatherer culture.

The !Xam believe that a *fo-!õä* plant had personhood and could only be safely collected by a *fo-! õä -ka-!kwi*, a ritual specialist who used this class of plant medicine (de Prada-Samper 2007: 7). A *fo-! õä -ka-!kwi* had to be introduced to the plant and had to learn to speak its language. Such a connection was formed that the *fo-! õä -ka-!kwi* took on the scent of this plant and in doing so took on some of its powers (McGranaghan 2012: 138).

Roots and tubers are a commonly-used plant part for ‘charms’. Mark McGranaghan (2012: 483–485) records that six of the 11 plant charms used by the !Xam were roots. Plant charms fall within the category of Medicine, yet the subtle distinction between a charm and medicine is never made explicitly clear, and in some cases the plant part is used for both (Challis 2014: 249; de Prada-Samper 2016: 50). Charms (which are not exclusively plants) are substances with magical properties and appear to be used/crafted for a specific purpose. Their use does not necessarily require ingestion (Stafford *et al.* 2009: 331; Challis 2014: 249; de Prada-Samper 2007: 2, 2016: 50).

4.2.2 – Fruit and seeds

Fruits and seeds are widely sought-after plant foods for their minerals, vitamins, trace elements, and often sweetness which is a rarity in other plant foods. Fruits like tsamma melons (*Citrullus lanatus*) (Estes 1991: 138; van Wyk & Gericke 2000: 81, 99–160), *!nara* melon (*Acanthosicyos horridus*), and Gemsbok cucumber (*A. naudinia*) are of vital importance as sources of moisture, but also food in the arid parts of southern Africa (van Wyk & Gericke 2000: 34; Cowling *et al.* 2004: 476). Another plant of vital importance to hunter-gatherers is *Schinziophyton rautanenii*

(Mongongo nut). This fruit, and the nut it contains, is of vital importance to many people in the Kalahari, namely the Dobe and Jul'hoānsi, where it accounts for over 50% of their daily calories (Lee 1979: 271). The fruit ripens over a short period, March to May, but the fruit and the nut remain edible for much of the year (Lee 1973), providing a much-needed year-round source of food even in drought periods (Lee 1979: 259). *S. rautanenii* has been utilised in the Kalahari for at least 7 000 years (Robbins & Campbell 1990 in van Wyk & Gericke 2000: 24).

In higher rainfall regions of southern Africa there are a greater variety of edible fruits, such as the marula (*Sclerocarya birrea*), fig (*Ficus* spp.), wild date palm (*Phoenix reclinata*), and fan-palms (*Hyphaene petersiana* and *Borassus aethiopum*). Seasonal fruits of the *S. birrea* (which ripen in autumn), and *Ficus* spp. (spring into early summer) (Maroyi 2011a: 519) were of such importance that hunter-gatherer groups aggregated and settled in areas for longer periods of time in order to utilise these foods (Walker 1995: 73, 122, 146–147, 165). The three palm species mentioned above were of importance as they are some of the only edible fruit available year-round (Cowling *et al.* 2004: 476).

Fruit make up the majority of the edible plant foods used by extant farming communities in Zimbabwe (Maroyi 2011a: 509; Mushangwe 2019: 78–79). Archaeobotanical studies of early farming community sites (Cooke 1953; Huffman 1974: 17, 97; Mushangwe 2019: 80–87) and hunter-gatherer sites (Walker 1980: 21; 1995: 73, 146) show the prevalence of seeds from edible fruits when compared to the number of seeds of other edible wild plants, especially *S. birrea* (Walker 1995: 73, 122, 146–147, 165). Seeds preserve more readily than other plant parts such as USOs and this may account for the higher representation of fruiting plants than USOs in the archaeobotanical record (Wadley *et al.* 2020: 87).

Fruit and seeds are used by the San groups to make musical instruments. Dried gourds are used as resonators for string instruments seen both in the rock art in southern Africa, and as artefacts from extant San communities (Nurse 1972: 27; Tanaka 1980; Lewis-Williams 1990a: 30; Mannetti 2011: 41–42). Dancing rattles, an important adornment in the Great Dance, were, in some cases, made from seed pods (Silberbauer 1981: 81), or springbuck ears filled with seeds (LL.VIII.1.6129').

Fruit in mythology and folklore

Fruits, nuts, and seeds are the most sought-after plant foods, with many being seasonal and produced during the rainy season (Maroyi 2011a: 519). This has led to fruit, especially when in abundance, being linked to the prosperity and fecundity of the land. This is typified in a common belief that the dwelling places of the gods are always prosperous and so often have an abundance of fruit. One healer proclaimed, referring to his revelation of God's house, "I see it with many fruit trees and green plants" (Keeney 2003: 42; Mguni 2009: 145). *Pisiboro*'s first children drop from a tree like fruit (Thomas 1959: 79). God's house is in the sky, with all the spirits of those who have died. God's family is there and it is beautiful with fruit trees and green plants (Keeney 2003: 42). God "made the Bushmen and he planted the fruit" (Keeney 2003: 83). When the shamans take the line into the sky "they find God and the fruit trees" (*ibid*: 83).

Fruits are also important as Medicines, such as the *lkui* fruit. A !Xam person who has killed another human person either holds or rubs their body with the *lkui* fruit in a purifying process called *lkoa* (LL.XI & XII.11.1094).

4.2.3 – Plant sap and gum

Plants saps and gums are widely utilised by San groups across Western and southern Africa for food, adhesives, and poisons (Lee 1979: 270; Mannetti 2011: 41; Bradfield *et al.* 2015: 32; Wadley *et al.* 2015). These saps are obtained predominantly from trees and USOs (Bradfield *et al.* 2015: 32; Wadley *et al.* 2015).

The adhesive substances used by San groups are mainly used for securing arrow heads to the shafts (Bradfield *et al.* 2015: 32; Wadley *et al.* 2015). Gum from several *Vachellia* species are used solely as adhesives (Wadley *et al.* 2015).

Plant sap is often used to make arrow poisons, e.g., *Boophone disticha* (Dornan 1916 in Neuwinger 1996: 11; Schapera 1925 in Mitchell & Hudson 2004: 51), in conjunction with animal-based poisons, the most often recorded being the entrails of *Diamphidia* grubs (Bradfield *et al.* 2015: 49). Hunting poisons are not limited to arrow poisons; for example, the latex sap from *Euphorbia ingens* is used in South Africa and Zimbabwe, not as an arrow poison but added to water to poison fish (van Wyk & Gericke 2000: 240).

!Xam women use a white gum called *!gui* made from the *!khou* tree (LL.VIII.23.8054-8067), which is likely *Vachellia* sp., to seal pots by boiling the gum (LL.VIII.23.8054-8067). On a practical level this is done to reduce the porosity of the pit-fired pot, and to prevent cracking, but the act of rubbing the pot with these specific substances and doing so ‘nicely’ (*a:kən*) evidently held a deeper meaning, and was linked with the role of women and the women’s knowledge (McGranaghan 2012: 264).

Gums and saps are important plant foods, with gums eaten as foods, and saps used as beverages. Lee (2012: 43) recorded 18 different species of plant gums that are eaten by the Dobe Jul’hoānsi, with the majority being *Vachellia* spp. The Hartebeest River Bushmen had a fondness for *Vachellia* gum (LL.VIII.18.7551’). The gum from unspecified *Vachellia* species are relished by rural VhaVenda communities for their sweetness (Mabogo 1990: 141).

Tree saps are a delicacy for many hunter-gatherer groups (Guenther 1989: 63), largely due to their sweetness and high sugar content, properties that are something of a rarity in wild foods. The sap from palms (*Phoenix reclinata*, *H. petersiana*, *Hyphaene coriacea*, and *Borassus aethiopum*) is tapped from trees and used as a beverage by hunter-gatherer groups in Namibia (Dinter 1912: 21–22 in Story 1964: 15) and by farmer cultures throughout much of Africa (Meredith 1948 in van Wyk & Gericke 2000; Cunningham 1990; Mabogo 1990: 60; van Wyk & Gericke 2000: 106; Shava 2005: 86; Sola *et al.* 2006; Flitsch *et al.* 2014: 186). The sap naturally ferments due to the presence of wild yeasts to produce a mildly alcoholic drink called palm wine (Mabogo 1990: 60; Mba *et al.* 2019: 842). The sap from these trees has an exceptionally high sugar content, which ranges between 10%-15% (Dalibard 1999: 1; Kurniawan *et al.* 2018: 591; Saputro *et al.* 2019: 863) and is valued highly, possibly to a similar degree as honey. Trees are tapped either by cutting the inflorescence spadix of the female flower heads (Orwa *et al.* 2009: 1), or directly from the trunk by cutting down the entire tree, with the latter being the most commonly used method across much of sub-Saharan Africa (Meredith 1948; Cunningham 1990; van Wyk & Gericke 2000: 106; Shava 2005: 86; Sola *et al.* 2006). The sap is harvested by cutting the apical meristem at an angle, which is used to direct the flow of the sap into a collecting vessel (figure 4.3). *Hyphaene* spp. are the most productive and produce several litres of sap, with some larger trees able to produce 60 litres over several weeks (Meredith 1948 in van Wyk & Gericke 2000: 106). Further, palm wine is valued not only for its high sugar content, but because it is available year-round (van Wyk & Gericke 2000: 52, 106; Cowling *et al.* 2004: 476).

There is a precedence for alcohol fermentation in southern Africa as far back as 40 kya (Rusch 2020: 18). Neil Rusch (2020: 4–11) shows through archaeological evidence from Boarder Cave in KwaZulu-Natal, South Africa, and ethnohistorical accounts from much of southern Africa—except Zimbabwe—that hunter-gatherers have been fermenting honey, with the addition of water and often various plant additives, to make alcohol.



FIG. 4.3. Tapping and collecting sap from palm trees. A) Sap collection from a hole cut in the felled trunk (Flitsch *et al.* 2014: 174); B) *Hyphaene petersiana* sap collection process from meristem (van Wyk & Gericke 2002: 107).

Sap, along with honey and fat, are all exceptionally high in calories and exist in both solid and liquid states. Fat and honey are both substances that contain an abundance of supernatural potency (Lewis-Williams 1981a: 50; Huffman 1983: 50; Lewis-Williams and Dowson 1989: 63; Walker 1996: 72; Mguni 2002: 62, 74; 2015: 146–7; Lewis-Williams & Challis 2010: 9; Hollmann 2015: 344).

!Xam reference to the consumption of these three substances may in certain contexts be euphemisms for sex (Guenther 1989: 15). Guenther (1989: 63) recorded two versions of a similar myth from the Nharo in which tree sap is apparently used as a metaphor for semen. I argue that it is likely that palm sap contains an abundance of supernatural potency.

4.2.4 – Leaves

Leaves are one of the most important plant parts utilised by people, although they are often overlooked when studying plant use in the past; likely due to the poor level of preservation in archaeobotanical deposits (Sievers 2013: 25–26). Leaves and greens (both wild and domesticated) form a major part of the plant foods eaten in southern Africa (Mabogo 1990: 142–144; van Wyk & Gericke 2000: 63). They are also a source of fibre, building material, bedding, Medicine, and phytochemicals. Leaves of certain plants have a high degree of culturally specific symbolism but are widely associated with growth and the fecundity of the land due to their vital role in supporting game animals and livestock. The !Xam term *kerru*, which is associated with green and the emergence of foliage after rain, marks the beginning of a time of plenty because the foliage attracts springbuck and ostriches (LL.II.23.2052-2062). The leaves of aromatic herbs and plants are, for many hunter-gatherer groups in southern Africa, also linked to rain.

Aromatic plants

Aromatic plants get their scents from a variety of volatile compounds which, due to their lightweight structure, readily evaporate and diffuse into the air (Pichersky *et al.* 2006: 808–809). These compounds fall into two main groups: terpenes and phenols, and it is the unique combination of these in varying concentrations that gives a plant its aroma. As their names suggest, both terpenes and phenols are oils (or essential oils) and are produced in varying concentrations in all parts of a plant. Plants have evolved to produce these compounds for various reasons, but most involve attracting pollinators or repelling predators, hence the highest concentrations of these are often found in flower, leaves, and stems (Paré & Tumlinson 1996: 93–94; Theis & Ler dau 2003: S97). Volatile oils in leaves are produced in pellucid glands (Fahn 1988 in Theis & Ler dau 2003: S97). When the leaves are crushed or are heated these glands are broken, exposing more volatile oils and so they evaporate at a faster rate resulting in a stronger scent.

The San place great emphasis on the importance of the sense of smell (LL.V.2.3869; Lewis-Williams 1981a: 51; Mguni 2002: 162, 165; McGranaghan 2012: 137). This is why aromatic

plants were, and still are, so important to the Kalahari San as Medicine. Andrew Smith (1966: 164–165) argues that the name ‘San’ shows the deeply entrenched connection between San and aromatic plants. ‘San’, a name given by the Nama, is derived from the Nama word *Sab*, plural *San*, which is also their name of aromatic plants and bushes which we now ascribe to the genus *Pteronia*. The suffix *qua* means people, so the names of San groups like the *Sanqua*, and *Sonqua* literally translate to “the people . . . who use aromatic bushes to anoint their bodies” (Smith 1966 in van Wyk & Gericke 2000: 215). Although San groups did not use the term ‘San’ to describe themselves, the fact that this anointing with aromatic herbs is used as a collective term is a clear indication of how central these plants were to them.

The importance of smell is why many of the plant medicines used are not ingested, but are burned in a tortoise shell and this smoke is wafted onto the patient (Wilhelm Bleek in Orpen 1874: 13; Marshall 1962, 1969: 360; Katz 1982: 39; Keeney 2003: 51). The scent of a plant is often its most powerful component (LL.V.3.4120; Marshall 1969: 360, 371; McGranaghan 2012: 138). The most common of these is *Buchu*, which refers to a !Xam class of dried aromatic herbs that are used for their magical, medicinal properties, and not solely to the genus *Agathosma* (LL.VIII.14.7282; Bleek 1933: 382; Mguni 2002: 164; Hollmann 2004: 177; McGranaghan 2012: 483).

The aromatic herb, or class of herbs, *sã* is used for its magical ability to mask scents and for its calming effects (Bieseke 1975: 192; Hollmann 2004: 130; McGranaghan 2012: 398). *Sã* is used to mask the smell of women during menstruation from *!Khwa* (the personification of rain) in order to not invoke his ire (LL.V.2.3869; LL.V.6.4393'-4394'; Hollmann 2004: 13; McGranaghan 2012: 137). The relationship with *!Khwa* needs to be mediated and this is done by adhering to correct behaviour (McGranaghan 2014: 424) which includes the use of plants such as *sã*.

Those seeking to capture a rain-animal rub *sã* on themselves and their lasso in order to mask their scent (LL.V.3.4119; Bleek 1933: 382; Hollmann 2004). *Sã* is used to calm rain-animals once they have been lassoed or captured (Lewis-Williams 1977: 166; Hollmann 2004: 163; McGranaghan & Challis 2016: 590). *Sã* is used to calm or ‘cool down’ ritual specialists who have entered into trance too deeply, or have acquired a dangerous amount of supernatural potency (LL.V.3.4122-4131; Bleek 1935b: 23–24; Bieseke 1975: 192; Keeney 2003: 51; Hollmann 2004: 237).

Although relatively uncommon, there are depictions of people in the art using plants for various purposes. The most fascinating of these are what appear to be plant charms (Lewis-Williams 1980; McGranaghan and Challis 2016: 594). These plant charms are most likely bundles of aromatic leaves which have been identified in the rock art of South Africa and Lesotho (Smits 1973; Vinnicombe 1976: 336–339; Lewis-Williams 1977, 1980; Challis *et al.* 2013; McGranaghan & Challis 2016: 587). These charms, when looked at through the lens of New Animism, were used by people to make animals (both real and non-real) ‘tame’ and to make them behave ‘nicely’ (Challis *et al.* 2013; McGranaghan & Challis 2016: 587). Similar charms are also present in Zimbabwean rock art and appear to be used in similar contexts.

4.2.5 – *Phytanthropes*

Phytanthropes are beings that combine the features of humans and plants, to form human-plant conflations (van den Heever 2020: 48–49) or transformations from human to plant or vice versa. Phytanthropes appear to be isolated to a small area in Zimbabwe and are absent from the rock art of South Africa.

Despite being rare in the rock art, phytanthropes or people transforming into plants—either partially or completely—do appear in the ethnographic material collected from the Northern Cape and Kalahari (LL.II.2.295-305; LL.XI & XII.5. 9362-9377, 9379, 9380v, 9381-9391, 9391v, 9401v; LL.XI & XII.8.9608-9618, 9624-9626; Bleek 1935a: 266; Bieseke 1976: 310; Lewis-Williams 2000: 171–172; Lewis-Williams & Pearce 2004a: 162; Guenther 2020: 110–111). These were predominantly characters and figures from the First race (Guenther 1989: 31, 2015: 285; Keeney 2003: 29; Mguni 2009: 145).

San deities often took the form of trees and plants and *Hi|e* (Nharo), *!Xue*, (Jul’hoān), and to a lesser extent *!Kaggen* (*!Xam*) are fundamentally associated with the botanical world (Mguni 2009: 145). This can be seen in the folklore and mythologies discussed below.

!Xue features in several Jul’hoānsi myths, almost always in association with plants (LL.XI & XII.5.9362-9377, 9379, 9380v, 9381-9384, 9385-9391, 9391v, 9401v; LL.XI & XII.8.9608-9618, 9624-9626; Bleek 1935a: 266; Guenther 2019: 57). In nine myths, *!Xue* transforms himself into various plants, sometimes the entire plant and in others just the leaves or the fruit, sometimes multiple plants in one tale. All of these plants produce edible fruit (LL.XI &

XII.5.9380v, 9401v; LL.XI & XII.8.9608-9618; Bleek 1935a: 266). In every tale where he assumes plant form, he also transforms into animals, most commonly lizards and pythons (LL.XI & XII.5.9347v, 9359-9403; LL.XI & XII.6.9404-9430, 9437-9438, 9443-9448, 9459-9490; LL.XI & XII.8.9602-9607v, 9609v-9616v) as well as some form of water either as rain (LL.XI & XII.6.9437-9438, 9443-9448, 9459-9490) or as a body of water (LL.XI & XII.5.9362-9377, 9379-9403; LL.XI & XII.6.9404-9430).

!Xue is constantly involved in some familial conflict in which he is either killing or attacking his father-in-law or is being attacked and killed by him. Most of his transformations are to disguise himself so that he cannot be attacked or can flee safely. On several occasions in these tales he dies and changes form, then comes alive again. Death in San mythologies can be a metaphor for going into trance (Lewis-Williams & Pearce 2004a: 111–112). !Xue is almost constantly in the process of transformation while going into trance or once he is in trance.

The link between plants and these deities is further reinforced when looking at the etymology of their names (Mguni 2009: 145). The more literal translation of the Nharo god *Hi!e* means ‘bush’ or ‘tree’ (Bleek 1928, 25, 1956: 61; Barnard 1986: 69–71), but as a deity, *Hi!e* was closer to the “spirit of the bush.” (Bleek 1928: 24) or “Lord of the Bushes” (Mguni 2009: 145). !Xue and !xu likely share etymological roots. !xu are wooden pieces used for divination and are made from the *!ke* tree, which ‘is a food tree ... not a mere tree’ (LL.XI & XII.7.9576’).

This belief in the liminality between plants and people is not restricted to mythology and the Early-Race stories (Mguni 2009:145) but features in interviews with San individuals. For instance, a Jul’hoān woman said that she was ‘not a person or an animal at all, but an edible root called *≠dwalkōma*’ (Bieseke 1976: 310).

A young woman might get herself and her band turned into trees, frogs, or rocks by *!Khwa* if she violates menstrual taboos (Guenther 1989: 31). Another !Xam narrative tells of three men turning into trees by looking at or being looked at by young maiden when she is full of the liminal and transformative power of menarche (Hewitt 1986:78–81; Guenther 1989:105–111, 2015 287–288).

*“The girl listens to the goura with her ears. The man stands. He stands because the maiden looks at him with the maiden’s eyes. The maiden looks, fastening him to the ground. And it is so. His legs are those of a man, but he is a tree. His arms are those of a man. He holds the goura with his mouth. He is a tree. He has his eyes, because he was a man. He has his head. He has his head-hair. He is a tree which is a man. **He is***

a man. He is a tree.” (Lewis-Williams 2000: 271 in Guenther 2015: 287–288. Emphases by the author in bold).

These men are simultaneously humans and trees, yet these physical attributes remain discrete. No mention is made of whether they are then phytanthropes, or people who have been totally transformed into ‘real’ trees, but Mathias Guenther (2015: 288) posits that their transformation into trees is complete and final.

To summarise, from the analysis of a wide range of ethnographic sources from across much of southern Africa it is evident that plants are an intrinsic part of hunter-gatherer lives, and that they play a major role, sometimes central, sometimes peripheral, in every aspect of life from subsistence to Medicine, religion, ritual, mythology, and cosmology. In the absence of ethnographic material from hunter-gatherers from Zimbabwe I use the rock art itself, in conjunction with ethnobotanical records from local Bantu-speaking farmers and hunter-gatherers from elsewhere in southern Africa to elucidate their many meanings and help shed light on a wider array of beliefs and ontologies.

CHAPTER 5 – BOTANICAL MOTIFS AND THEIR NATURAL MODELS

In this chapter I use the classification system set out in Chapter 3 to identify and understand botanical motifs and likely identifications. Figure 5.1 shows the breakdown of each category that was informed with ethnographic material, and the corpus of botanical motifs used in this dissertation.

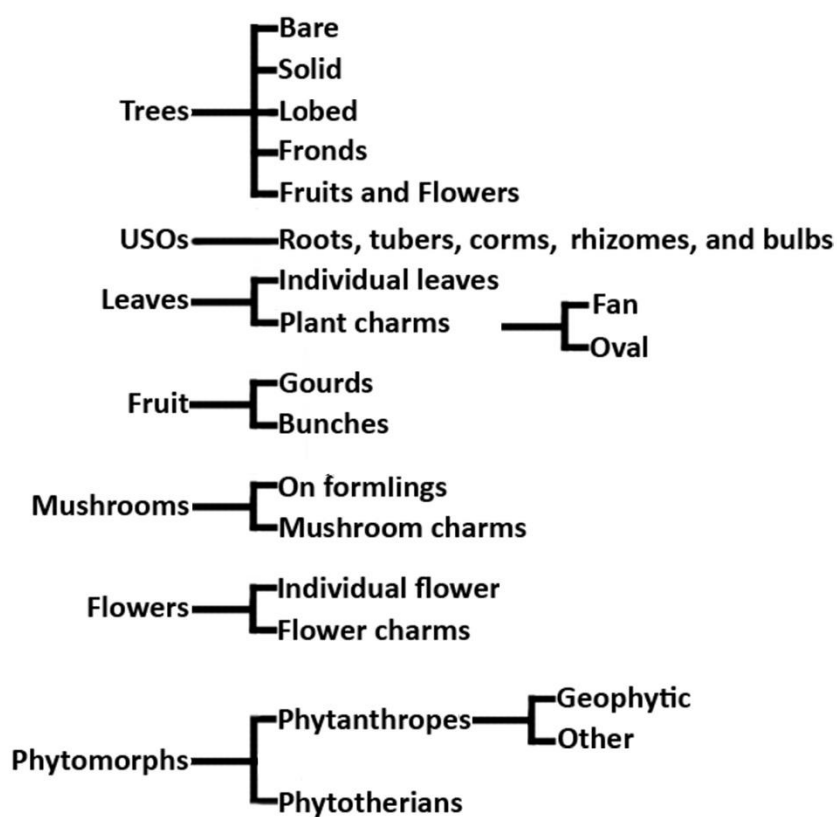


FIG. 5.1. Breakdown of botanical motif classification.

5.2 - Morphology of painted trees and plants

5.2.1 – Trees and arboreal forms

Trees and arboreal forms are often stylised with minimal detail or embellishments. Be that as it may, they are still often easily recognisable as trees, unlike less obvious motifs such as formlings (Mguni 2002: 153). The most common features in trees are the trunk, branches, roots, ‘groundlines’, fruit, and flowers (Mguni 2002: 154). I outline here the various plant parts I use for classification and descriptions of the categories.

Trunk

The trunks are the most common feature found on arboreal motifs and in many ways the trunk is a defining morphological feature of this category. The trunks vary in thickness and length and are rarely embellished. The only consistent detail found on some trunks are spike-like protrusions which are most likely petioles of old branches, which remain on some species after the leaves have fallen.

Branches

Branches and branching patterns are common features on tree motifs. These branching patterns are occasionally helpful for identification especially for plants such as palms which all branch directly from the crown. This is also the case for young *Kirkia acuminata* and *Zanthoxylum capense* (see Fronds section).

Roots

Tree roots are a common feature of arboreal motifs, most often seen with bare trees. Most are short and go either vertically or horizontally. The roots are very simplified and show little to no ramification or embellishment. Lateral roots often form ‘groundlines’ that can extend well beyond the tree. These effect of this is twofold: it creates a line which might demarcate what

is above and below ground (Mguni 2009: 140) and it connects the tree to other figures and motifs, most often other trees.

Leaves

Individual leaves are rarely depicted. Tree canopies are most commonly presented/depicted as a single solid mass. Pinnate leaves are the most common identifiable type of leaf arrangement. In some instances I suggest that dashes or flecks, which often match the size and shape of flecks commonly associated with these tree motifs, depict leaves. Individual leaf motifs separate from any tree motifs are classified separately.

Fruits and flowers

Fruits are most often depicted on trees as small spherical shapes connected directly to or by a peduncle to a branch or stalk. Flowers appear as lighter-coloured finger-like protrusions on the ends of branches.

Bare canopy

Bare trees are defined by the presence of a trunk, and branches with no canopy (i.e., no leaves). They comprise 16% of the trees recorded. Most have narrow trunks with simple branching pattern and with prominent elongated roots running either vertically or laterally (figure 5.2). These elongated roots are most notably at sites Gulumbezhe 1 (figure 5.3) and Amadzimba 1 (figure 5.4).

Due to the lack of specific morphological features, formal identifications on family, genus and species level are not possible. Formal identification is largely irrelevant as these trees fall into the category of bare trees and there is no need for a more specific classification as this highlights their function as *axis mundi* and as a means of travel between realms or the three-tiered cosmos (Mguni 2006a: 63, 67, 2009: 144) and so it is probably similar to the emic classification.

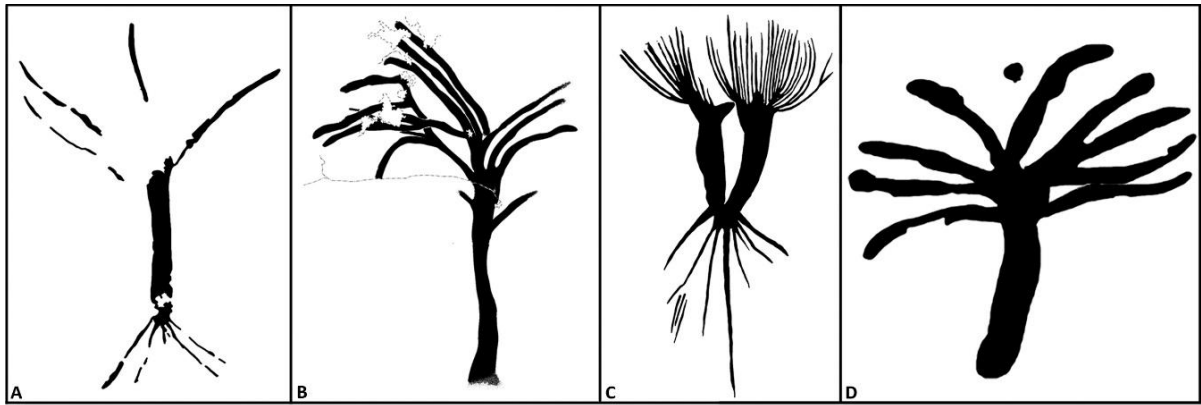


FIG. 5.2. Hunter-gatherer rock paintings of bare trees in four different contexts described in text. **A)** Domboshawa 1 (Mashonaland East. Redrawn from Nicole Calame-Darbellay. Modified: other figures removed. Colour: Black = Ochre); **B)** Tshangula Cave (Matabeleland South. Mguni 2002: 33 fig. 5. Colour: Black = Dark Red); **C)** Ruchera (Mashonaland East. Redrawn from Joachim Lutz, FBA-D4 01619, © Frobenius Institute. Modified: figures removed. Black = Dark Red); **D)** Zombepata (Mashonaland Central. Redrawn from image courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA. Colour: Black = Ochre).

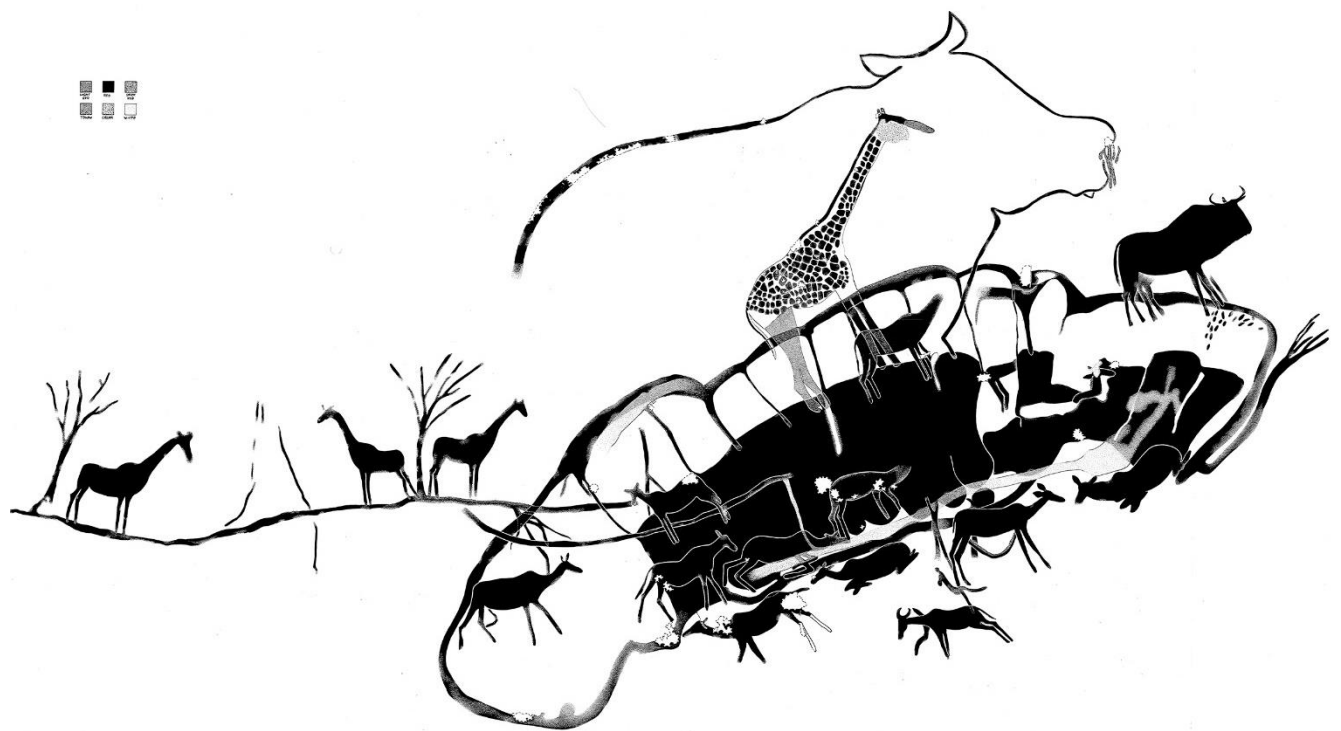


FIG. 5.3. The roots of bare trees connected to a formling with animals, described in text (Gulumbezhe 1, Matabeleland South. Mguni 2004: 183 figure 2).

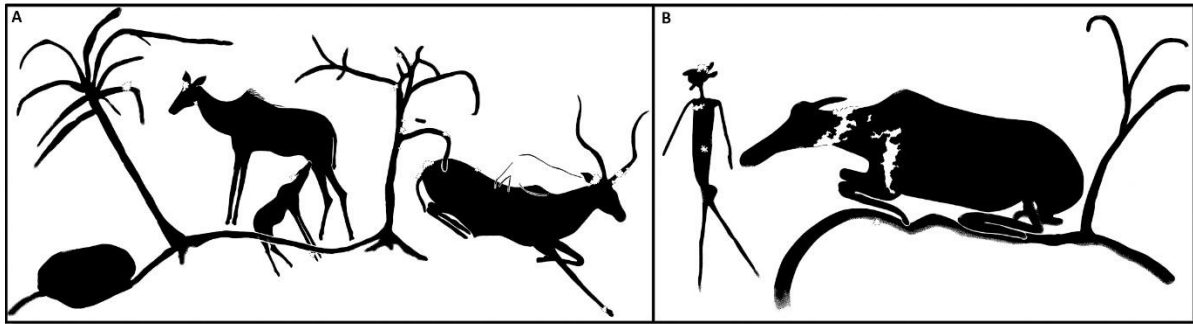


FIG. 5.4. The roots of bare trees creating ‘groundlines’ described in text. **A)** Amadzimba 1 (Matabeleland South, Mguni 2002: 34 fig. 6. Colour: Black = Orange); **B)** Amadzimba 1 (Matabeleland South, Mguni 2009: 141 figure 2. Colour: Black = Red).

At Gulumbezhe 1 (figure 5.3) the tree roots from two bare trees on the left-hand side connect to one another and extend through a set of formlings. This line of roots possibly demarcates what is above ground (giraffe, wildebeest, and a large rain-animal bleeding from the nose) and what is underground (tsessebe and female kudu, some of whom are kneeling). The lateral roots/‘groundline’ runs through three of the left-most cores of the formling with half above and half below, potentially showing the liminal nature of formlings and trees in that they can transcend the three tiers of the cosmos (Mguni 2006a: 62). At Amadzimba 1 there are two examples of roots forming ‘groundlines’. Figures 5.4A & B show antelope, (kudu and tsessebe respectively) lying on top of the line that extends between two trees. All trees conflated with formlings are bare. Trees in the everyday world are often found growing out of termite mounds (Turner 2000: 151; Traoré *et al.* 2008: 64 Moe *et al.* 2009; Okullo & Moe 2012; van der Plas 2013: 1, 3), and termite nests are often built in the hollow trunk of a tree (Mguni 2015: 146–147). Although rock art motifs are not literal depictions of the natural world, they are modelled on natural forms and so it seems far more likely that this is a formling within the trunk of a tree. The tree at Nanke 2 (figure 5.5) does not have roots at the bottom, but it has a branching structure above the trunk with a formling contained within the trunk. It does have elements of a sprouting tuber or root, or possibly a conflation of that and a formling, but given that I have only recorded one site with underground storage organs, compared to 21 with bare trees, in Matabeleland South, this seems unlikely.



FIG. 5.5. A bare tree described in text near Nanke 1 (Matabeleland South. Redrawn from image courtesy of N. Calame-Darbellay. Colours: Black = Orange, Dark Grey = Red, Grey = Light Red).

Antelope are painted apparently browsing on trees, though the trees are typically bare of any leaves (Mguni 2009: 142). This association seems unusual from a biological perspective considering the lack of foliage, and again highlights the difficulty both in using Western taxonomic identification for the interpretation of botanical motifs and in attempting ‘literal’ interpretations of emic metaphors. At both Shumbashaba 1 (figure 5.6) and Amadzimba 1 (figure 5.7) female kudu are browsing on bare branches. This ‘browsing’ behaviour (the muzzle extended towards and/or touching the tree) might be the method to depict the animal smelling the plant, or the animal equivalent of reaching out and touching the plant.



FIG. 5.6. Female kudu and a bare tree (Shumbashaba 1, Matabeleland South. Mguni 2009: 141 figure 2. Colours: Black = Red, White = White).

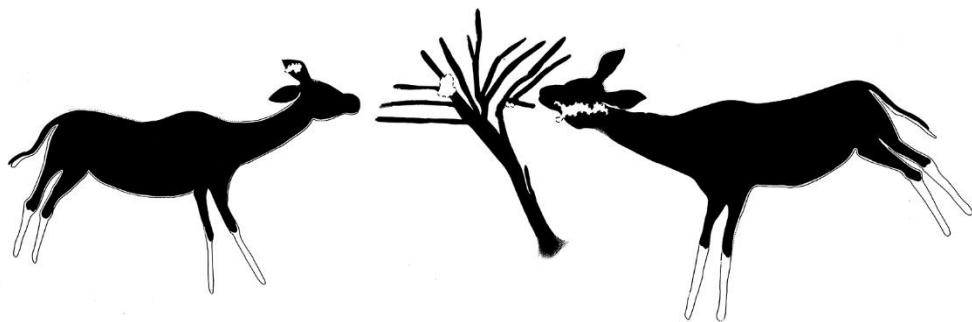


FIG. 5.7. Two female kudu browsing on a bare tree (Amadzimba 1, Matabeleland South. Mguni 2009: 141 figure 2. Colours: Black = Red, White = White).

The juxtaposition of creatures apparently browsing on bare trees is not restricted to antelope, herbivores or even ‘real’ animals. At Gulubahwe 1 (figure 5.8) there is a rain-snake with a head that has rows of sharp teeth, which has its face positioned directly touching a bare tree.

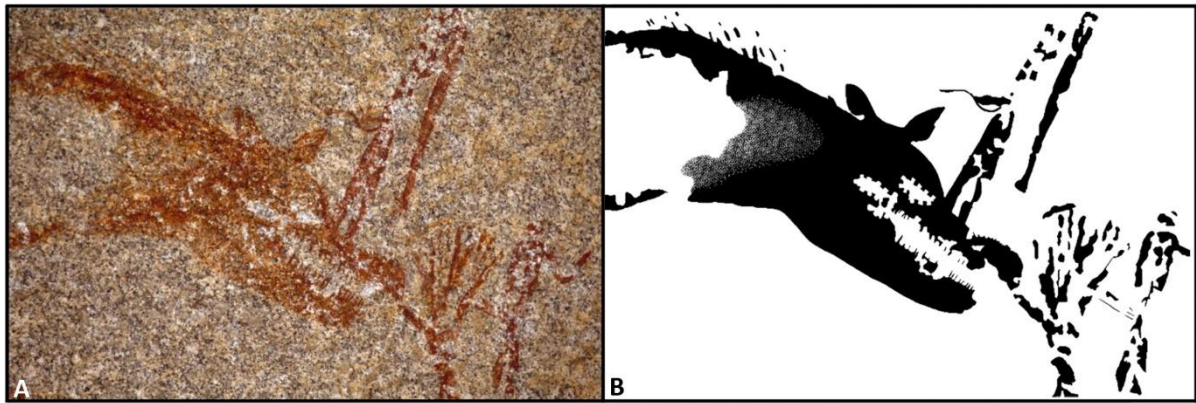


FIG. 5.8. A rain-snake and a bare tree. **A)** Gulubahwe 1 (Matabeleland South. SARADA); **B)** Redrawing from A.

The primary role of such juxtapositions of people and trees may refer to trees as a means of travel between the spirit and material world, as described in ethnographic testimonies recorded by Bieseke (1978: 929–933) and Guenther (1999: 188) and seen in the rock art (figure 5.9). By removing extraneous details, the image-makers highlight this practice, often exaggerating the dimensions of the tree and showing figures climbing up the trunk, branches, or down roots. Besides figures climbing the trees, the presence of a formling in the trunk of a tree (figures 5.5) indicates trees as a means of travel on the vertical axis because the crevasses or holes in trees that some termites make their nests in are seen as analogous to other portals to the spirit-world such as watering holes and holes in the rockface (Mguni 2015: 146–147).

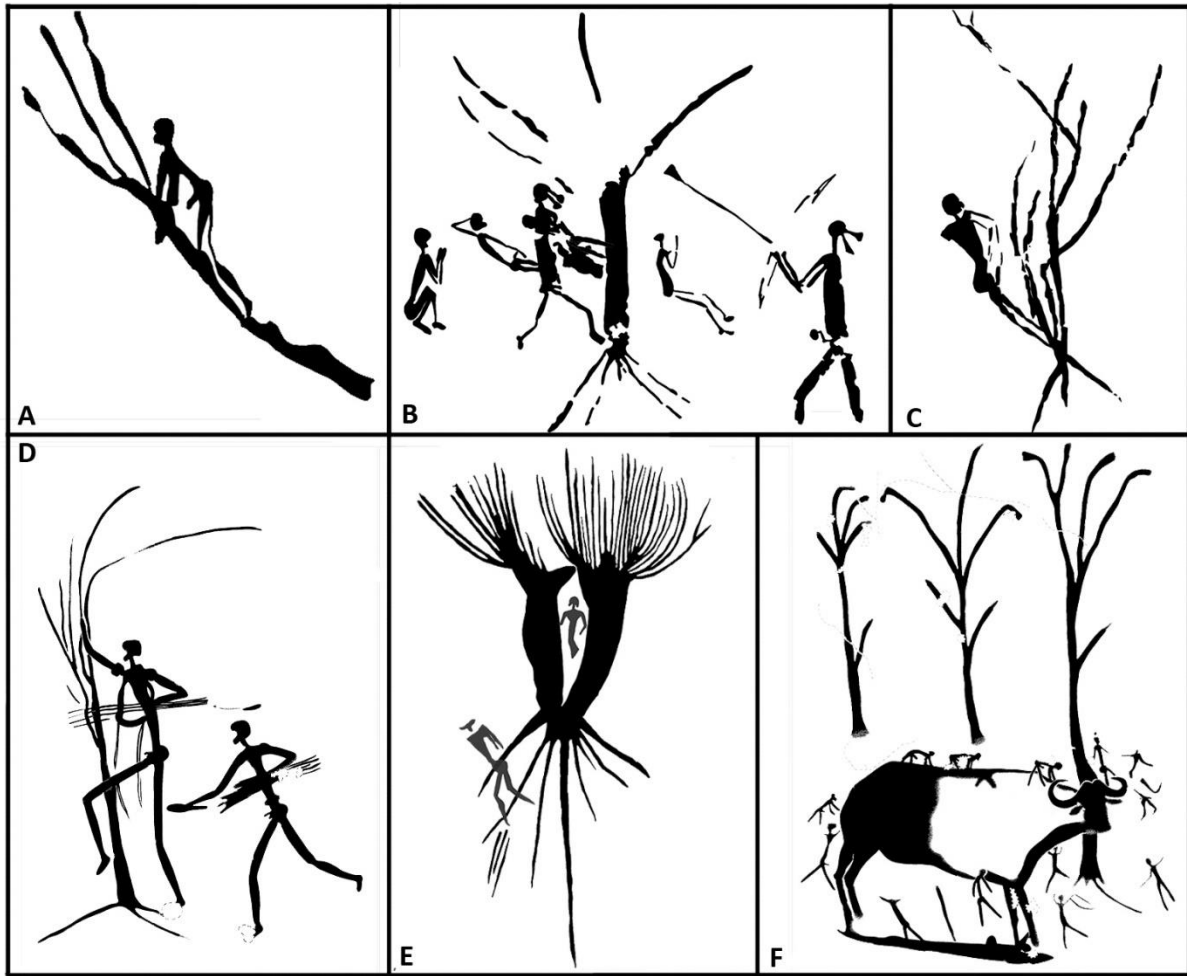


FIG. 5.9. Human figures climbing bare trees or animals associated juxtaposed with them, described in text. **A)** Fair Range 3 (Masvingo. Redrawn from RARI images. Colour: Black = Dark Red); **B)** Domboshawa 1 (Mashonaland East. Redrawn from N. Calame-Darbellay. Modified: figures removed. . Colour: Black = Ochre); **C)** Lone Star Ranch 11 (Masvingo. Redrawn from RARI image. Colour: Dark Grey = Red); **D)** Amadzimba 1 (Matabeleland South. Redrawing by Mguni 1999. Colours: Black = Red); **E)** Ruchera (Mashonaland East. Redrawn from J. Lutz, FBA-D4 01619, © Frobenius Institute. Colour: Black = Dark Red, Grey = Red); **F)** Kudale 2 (Matabeleland South. Redrawing by Mguni 1999. Colour: Black = Orange).

Ritual specialists of both the Northern San in the Kalahari and Southern San in the Northern Cape Province of South Africa transform themselves—when in trance or dreaming—into animals such as felines or birds to travel to places in the physical world, for example to visit other camps (Bleek 1933; Lewis-Williams 1981a: 71–101; Katz 1982: 100–101; Bieseke 1993: 94–98; Keeney 1999: 61; Lewis-Williams *et al.* 2000: 129). Ritual specialists who wish to travel great distances must use a potentially dangerous amount of potency, and transform themselves into felines, most often lions, as they are the epitome of danger and potency (Walker 1996: 71; Eastwood & Eastwood 2006: 107). The Jul’hoān word for lion, *jum*, means pawed-

creature but also to travel in out-of-body experiences (Lewis-Williams 1987: 168; Lewis-Williams *et al.* 2000: 129).

Journeys to the spirit-world sometimes involve a ritual specialist leaving their body in a deep trance state and climbing or following luminous threads, lines or ropes up to the sky (Orpen 1874: 8–10; Schapera 1930: 198; Marshall 1962: 238, 1999: 21, 25; Bieseke 1980: 56; Guenther 1999: 188). These threads of light, or ‘ropes to god’ are found in the rock art in the Maloti-Drakensberg, depicted as red lines often with white dots (Lewis-Williams *et al.* 2000: 123; Mguni 2006a: 64) and are representations and manifestations of a means of travel to the spirit-world (Walker 1996: 67; Lewis-Williams & Pearce 2004a: 179). I argue that bare trees fulfil the same role in Zimbabwe. This perhaps is best illustrated in figure 5.10 where a human figure is climbing a thin, rope-like tree which is graphically denoted by the branching at the top, and is closely associated with a leopard with a gaping mouth and formlings. With its allusion to travelling through a series of formlings, which are known sources of great quantities of potency and are linked to spiritual travel (Mguni 2002, 2009, *inter alia*), and alongside a leopard, which is a feline and a pawed creature most notably associated with potency and travel (Walker 1996: 71; Eastwood & Eastwood 2006: 107) this panel provides multiple metaphors to reinforce the link between bare trees, potency, and travel to God’s house (Mguni 2006a: 67).

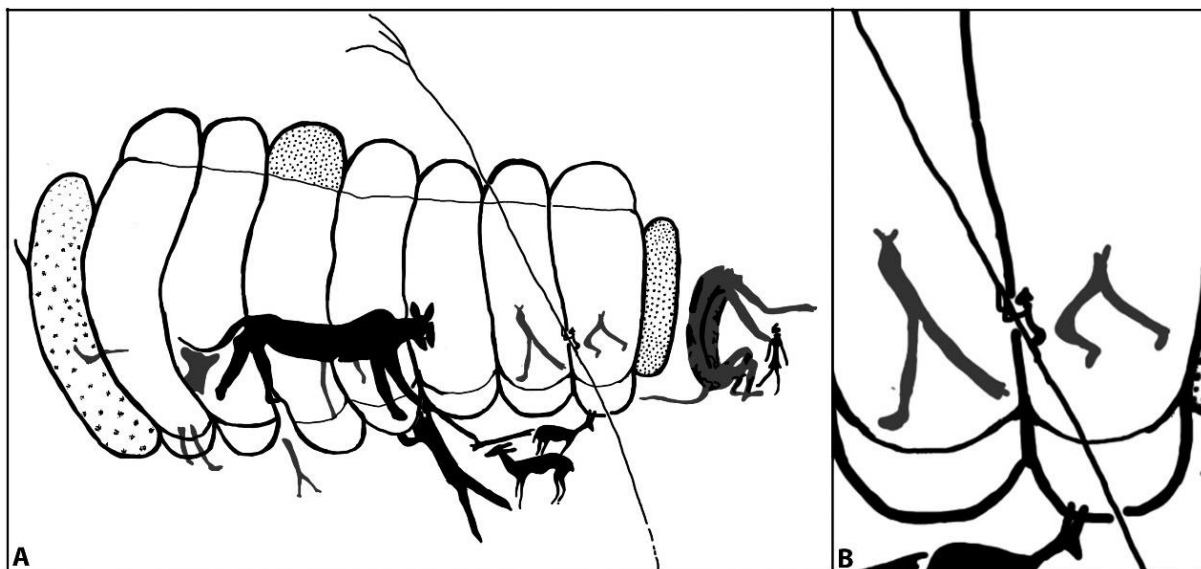


FIG. 5.10. A) human figure climbing a line-like tree, described in text (Matabeleland South. Modified from Mguni 2006a: 67; **B)** close up of the climbing figure.

Solid Canopy

Trees with a solid canopy are what Taylor (1927: 1058 cited in Mguni 2009: 140) referred to as “conventional trees” whose shapes range from rounded to umbrella-like with no individual leaves depicted (figure 5.11). Thorns, flowers, and fruit are never depicted, and roots are rare; when depicted they are generally short. The lack of individual leaves and thorns makes a formal identification challenging, although the shape or style of tree is synonymous with African Savannah trees. Those with umbrella-shaped canopies most closely resemble *Vachellia* and *Senegalia* (formerly *Acacia*) species, which have thorns, prickles, and pinnate leaves (Barnes 2001: 10). With 56 taxa of *Vachellia* found in Zimbabwe alone (Timberlake *et al.* 1999) identification to species or even genus is in most cases not possible. With this in mind, it is likely that the exact species was not important but referred to a generalised emic category. There are few commonalities in context and associations between solid canopy trees and other motifs which makes any interpretation difficult.

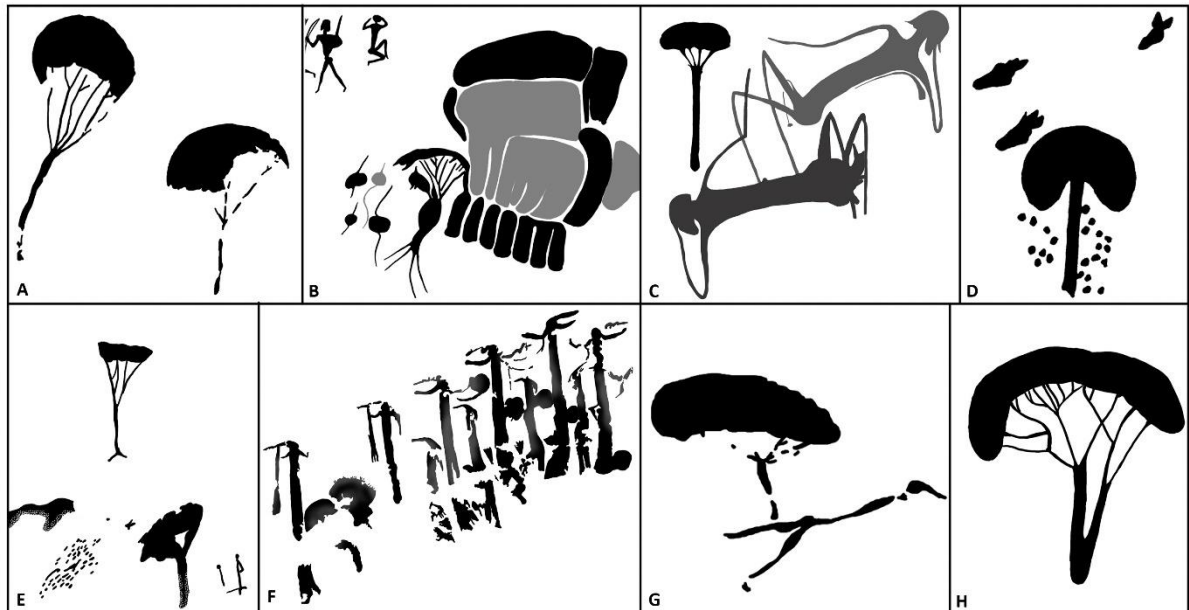


FIG. 5.11. Tree motifs with solid canopies described in text. **A)** GOK1 (Masvingo. Redrawn from RARI image. Colour: Black = Dark Red); **B)** Nyahuvu Farm (Manicaland. Redrawn from Goodall 1959 plate 55. Colours: Black = Red, Grey = Ochre); **C)** Rusape (Manicaland. Redrawn from SARADA image. Colours: Black = Dark Red, Dark Grey = Red, Grey = Yellow); **D)** Arlington Road 1 (Mashonaland East, Garlake 1995: 96 fig. 112. Colour: Black = Dark Red); **E)** Cairnsmore Ranch (Mashonaland Central. Redrawn from Goodall 1959: 46 fig. 18. Colour: Grey Scale); **F)** Matobo Hills (Matabeleland South. Redrawn from image courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA. Colours: Black = Dark Red, Greys = Fading Dark Red); **G)** Markwe 1 (Mashonaland East. Redrawn from SARADA image. Colour: Black = Light Red); **H)** Lekkerwater Farm (Manicaland. Redrawn from L. Frobenius, 1929, FBA-B 00680, © Frobenius Institute. Colour: Black = Light Red).

Lobed canopy

Lobed canopies comprise two or more oval or rounded sections and are most often solid but can be lobes of flecks (figure 5.12C). Trees with lobed canopies are often painted with trees with fronds. In some instances, for example figure 5.18A, both lobes and fronds can be found on the same tree. For these reasons I argue that lobes are, for the most part, one way of depicting palm fronds or the large drupes of palm fruit (discussed in the following subsection).



FIG. 5.12. Trees with lobed canopies described in text. **A)** Murehwa 1 (Mashonaland East. Redrawn from RARI image. Colour: Black = Dark Red); **B)** Murehwa 1 (Mashonaland East. Redrawn from RARI image. Black = Dark Red); **C)** Bushman Point 1 (Mashonaland West. Redrawn from RARI image. Colour: Black = Red); **D)** Big Cave Matabeleland South. Redrawn from image courtesy of N. Calame-Darbellay. Colours: Black = Light Red, Dark Grey = Ochre); **E)** Lesapi Falls (Manicaland. Redrawn from J. Lutz, FBA-C1 01516, © Frobenius Institute. Colour: Red).

Fronds

Fronds are large, divided leaves and are the most common canopy type (101 of 363 tree motifs). Trees with fronds often have roots that run vertically (although not as long or pronounced as those found on bare trees) and are often associated with flecks that appear to be part of the canopy (figures 5.13E & F).

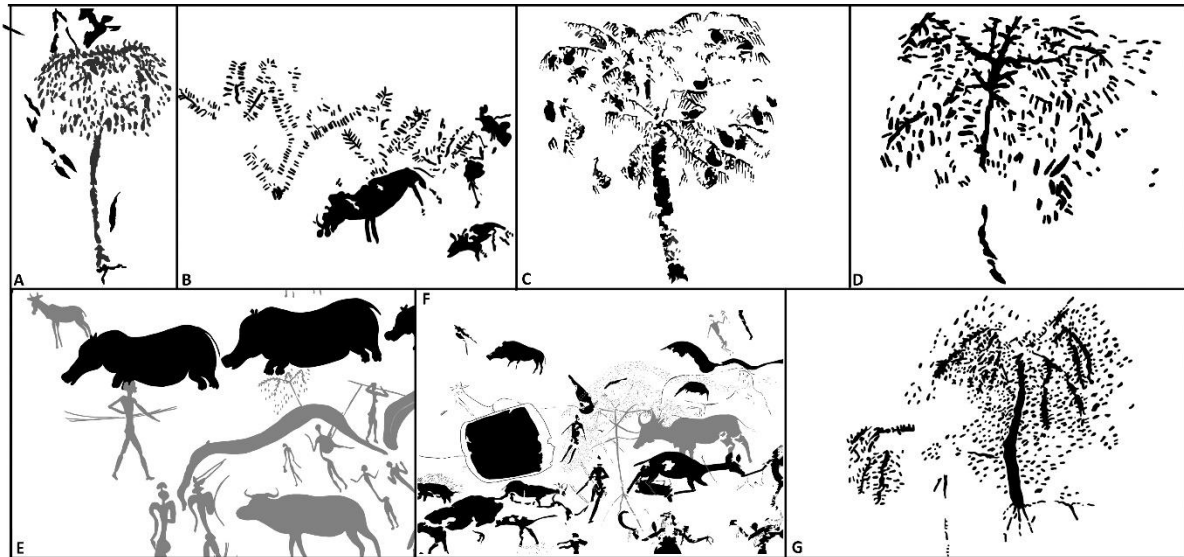


FIG. 5.13. Trees motifs with fronds described in text. **A)** Bushman Point 1 (Mashonaland West. Redrawn from SARADA image. Colour: Black = Yellow) **B)** Harare (Redrawn from Nhamo 2014: 289 fig. 127b. Colour: Black = Red); **C)** Zimbabwe (Redrawn from Hubbard 2013: 17 fig. 5. Colour: Black = Red); **D)** Glen Norah Farm 1 (Mashonaland East. Redrawn from SARADA image. Colour: Black = Dark Red); **E)** Somerby Farm (Mashonaland West. Redrawn from Goodall 1959: 12 plate 5. Colours: Black = Dark Red, Grey = Red); **F)** Manemba 1 (Mashonaland East. Redrawn from image courtesy of J. Hollmann. Colours: Black = Dark Red, Grey = Ochre); **G)** Murehwa (Mashonaland East. Redrawn from image courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA. Colour: Black = Dark Red).

Specific identifications of painted trees

Palms

There are two broad types of palms indigenous to southern Africa: fan-palms and feather-palms. These palms share morphological similarities in trunk and root morphology, namely both groups are monopodial, with the leaves emerge directly from the crown with no side branching or ramification, have thin, pencil-like roots, and are dioecious (Orwa *et al.* 2009: 1). It is the leaves, and the branching patterns which are the characteristics that make these distinguishable.

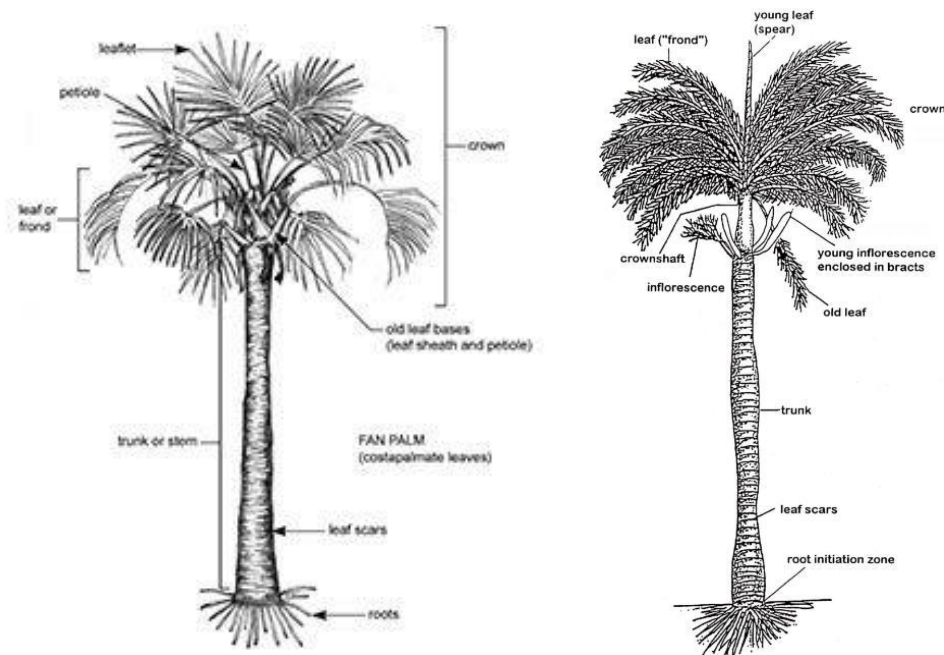


FIG. 5.14. Palm morphology diagrams. A) fan-palm morphology (FDACS/DPI, and USDA/APHIS/PPQ/CPHST/Public Domain); B) feather-palm morphology (A. W. Meerow, UF/IFAS).

Fan-palms

There are two genera of fan-palm indigenous to southern Africa; *Hyphaene* (*H. petersiana*, *H. coriacea*, and *Borassus* (*B. aethiopum*) (Coates Palgrave *et al.* 1977: 67–69). *H. petersiana* (formerly split into *H. petersiana* and *H. benguellensis*) is found in Zimbabwe, Botswana, Namibia, Mozambique, and Limpopo (Coates Palgrave *et al.* 1977: 67–68) with an altitudinal range of 275–1000 m (Strelitzia 973). *H. coriacea* is often misidentified as *H. petersiana* but can be ruled out as a candidate because it is found at low altitudes (50–300 m) restricted to coastal areas and low-lying river plains (Strelitzia 973).

They all have single-stemmed trunks ranging between 1–14 m for *H. petersiana*, and between 5–20 m for *B. aethiopum* (Strelitzia 973) with a slight swelling halfway up the trunk (Coates Palgrave *et al.* 1977: 67–9). The large, evergreen leaves are fan-shaped with the leaflets all joining at the petiole (Coates Palgrave *et al.* 1977: 67). *B. aethiopum* produce large (12–18 cm), round fruit borne on pendant-like bunches (*ibid.*), and *H. petersiana* produce edible fruit in hanging bunches with an ivory-like nut inside, about 4–5 cm in diameter (*ibid.*).



FIG. 5.15. *Hyphaene petersiana* A) *Hyphaene petersiana* (Marco Schmidt/CC-BY-SA-3.0); B) *H. petersiana* fruit (Karen Pagel/CC-BY-SA-4.0).



FIG. 5.16. *Borassus aethiopum* A) *Borassus aethiopum* (Ji-Elle/CC-BY-SA-4.0); B) *B. aethiopum* fruit (Atamari/CC-BY-SA-3.0).

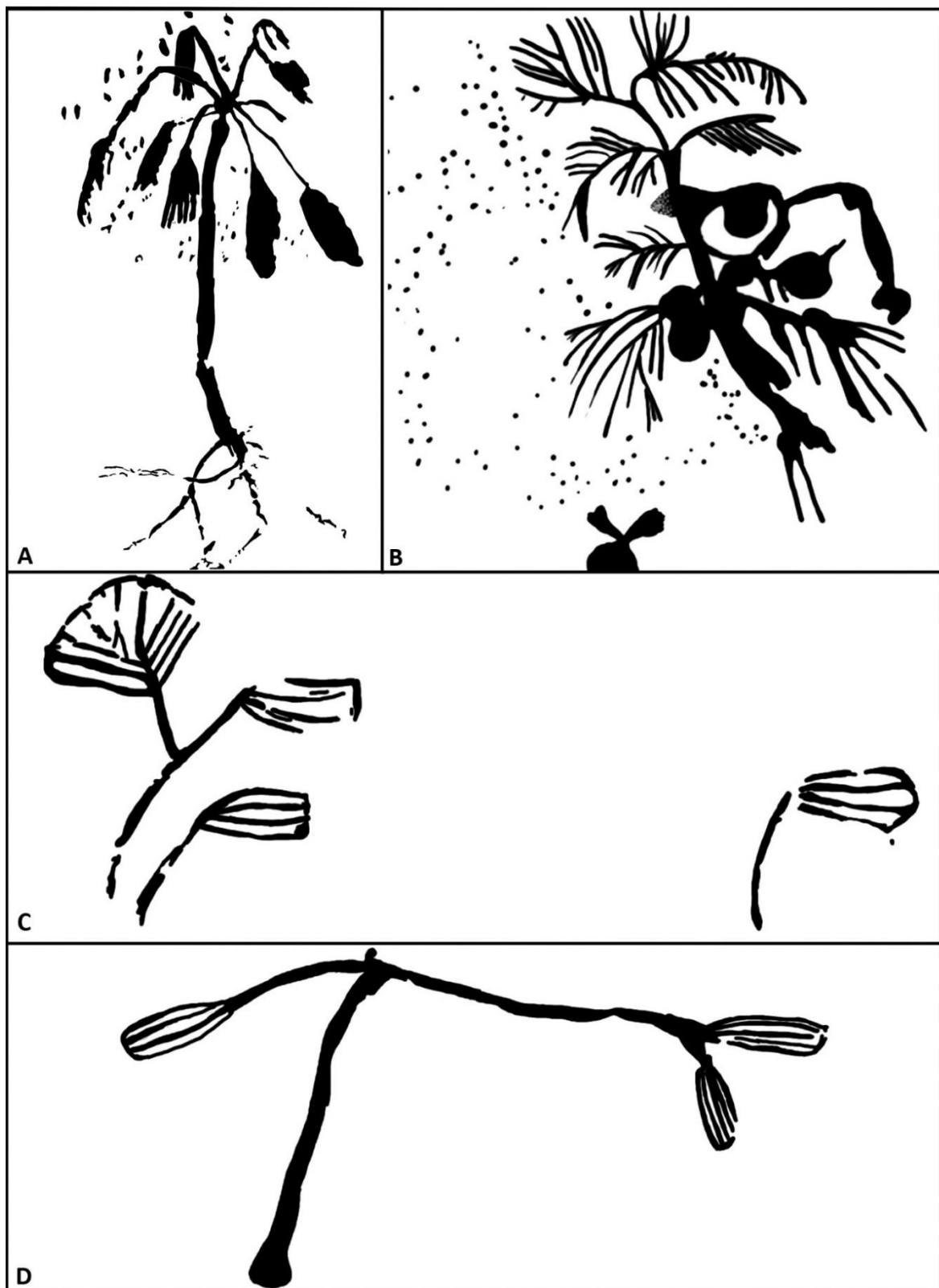


FIG. 5.17. Examples of fan-palm motifs described in text. **A)** Zimbabwe (Redrawn from Mguni 2009: 142 figure 3. Colour: Greyscale); **B)** Mimosa 2 (Harare. Redrawn from Goodall 1959 plate 29. Colour: Black = Dark Red); **C)** Zombepata (Mashonaland Central. Redrawn from image courtesy of J. Hollmann. Colour: Black = Orange); **D)** Zombepata (Mashonaland Central. Redrawn from image courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA. Colour: Black = White).

The tree in figure 5.17B might be *B. aethiopum* because of its large fruit and fan-palm leaves. *B. aethiopum* produce fruit in drupes and have fan-shaped leaves like *H. petersiana* so in order to distinguish the two the fruit of *B. aethiopum* may have been painted larger and as a single mass of fruit. Neither species of fan-palm bear their fruit from their fronds or close to the trunk. A more likely explanation is that these large, rounded shapes are bird nests (see Chapter 6 section 6.7). Figure 5.17A is interesting as it shows how palm leaves (both fan and feather) can be depicted as lobes emanating from the crown. The lobes on the left-hand side show characteristic palm leaflets and those on the right are solid.

Phoenix reclinata

Phoenix reclinata (wild date palm) is the only indigenous species of pinnate palm in southern Africa (Coates Palgrave *et al.* 1977: 66–7). They have a wide distribution covering most of East and Central Africa from Ethiopia to the Eastern Cape Province in South Africa (*ibid.*). They grow in most biomes with an altitudinal range of 0–3000 m above sea level (Veronica 1992; Orwa *et al.* 2009: 2).

P. reclinata have straight to slightly curved trunks between 1–10 m tall with slight swelling near the base and are either found singularly or in clumps (Orwa *et al.* 2009: 1). They have feather-shaped evergreen leaves which are 3–4m long (Coates Palgrave *et al.* 1977: 66–7; Orwa *et al.* 2009: 1). These leaves drop, leaving their bases along the length of the trunk (Orwa *et al.* 2009: 1), which only becoming smooth once the tree has attained a great height. The simplified leaf shape of pinnate palms leaves is an elongated oval, connected to the crown on a relatively thin leaf stalk. *P. reclinata* are dioecious (individual plants are either male or female), with male flowers producing large, visible clouds of pollen (Coates Palgrave *et al.* 1977: 66–7; Veronica 1992; Orwa *et al.* 2009: 1). The female plants produce edible fruits that are oblong, oval-shaped (2.5 cm) and are borne on large drooping bunches that take up to four years to fully ripen (Veronica 1992). In their final stages of ripening the fruit turn orange and the bunches hang at a low to a near-vertical degree under their weight (Veronica 1992; Orwa *et al.* 2009: 1).

Looking at the crowns and trunks of 11 arboreal motifs in southern Zimbabwe, Breuil (1966: 24, 116, 119) identified these as palm species. Most of them comprised a “single vertical line for the trunk and two symmetrical lobes hanging down from either side of the trunk to represent the leafy crest.” (Breuil 1966 in Mguni 2002: 154). I concur that these lobed canopies are likely to be stylised representations of palm fronds but add that this appearance may be the result of fading of the finer details of these fronds (e.g., figure 5.18A). These lobes could also represent the large hanging bunches of fruit, which droop further down at a near-vertical angle under the weight of the fruit. Lobed canopies are not always depicted as emanating directly from the crown. This could be because two trees were superimposed on one another with the trunk of one behind the other (figure 5.18E) or because the motifs do not always look exactly like the plants they are modelled on, with the other features (lobed canopy, slender singular trunk etc.) being enough to identify these as palms, as is the case in figures 5.18D & G.

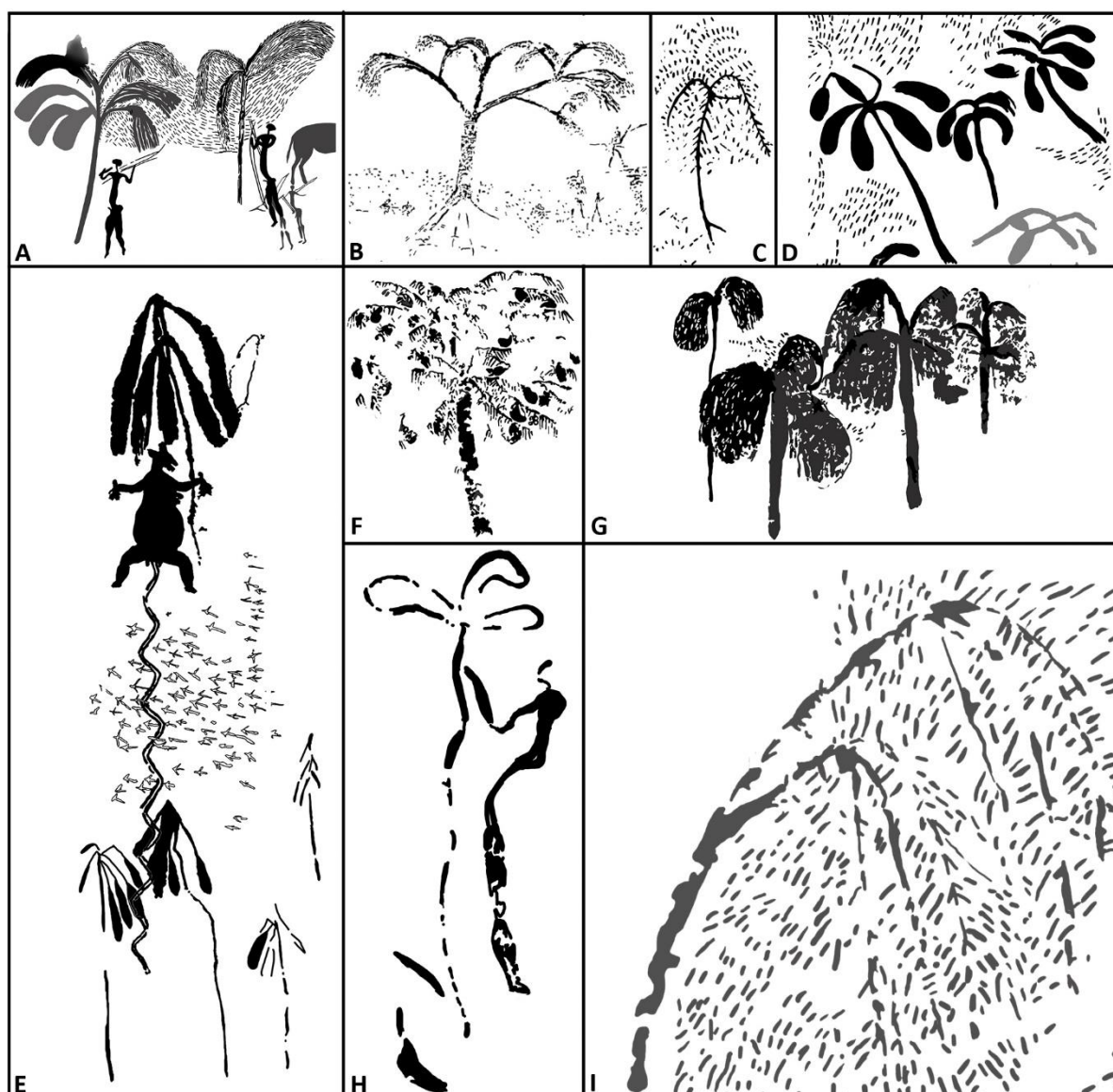


FIG. 5.18. Feather-palm motifs described in text. **A)** Ngomakurira 1 (Mashonaland East. Redrawn from Goodall 1959: plate 40. Colours: Black = Black, Dark Grey = Dark Red, Light Grey = Light Red); **B)** Matabeleland South (Redrawn from Walker 1996: 38 slide 40. Colour: Black = Red); **C)** Chiremba (Harare. Redrawn from Goodall 1959 plate 38. Colour: Black = Red) **D)** Tsindi (Mashonaland East. Redrawn from J. Lutz, FBA-D3 01519, © Frobenius Institute. Colours: Black = Dark Red, Grey = Ochre); **E)** Goromonzi (Mashonaland East. Garlake 1995: 88 figure 99. Colours: Black = Red, White = White); **F)** Zimbabwe (Redrawn from Hubbard 2013: 17 fig. 5. Colour: Black = Red); **G)** Lake Chivero (Mashonaland West. Redrawn from image courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA. Colours: Black = Red, Dark Grey = Light Red); **H)** Big Cave (Matabeleland South. Redrawn from image courtesy of N. Calame-Darbellay. Colour: Black = Light Red); **I)** Gambarimwe 1 (Mashonaland East. Redrawn from image courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA. Colour: Dark Grey = Dark Red).

Arboreal motifs displaying: single upright trunks, monopodial branching pattern, pinnate or palmate leaves, or oblong lobed canopies, and leaf bases along the trunk, are palm trees. Those displaying two or more fronds are very likely to be palms because this collection of features is found only in palm trees. The same conventions have been used to depict palms in the rock art of Libya (figure 5.19).

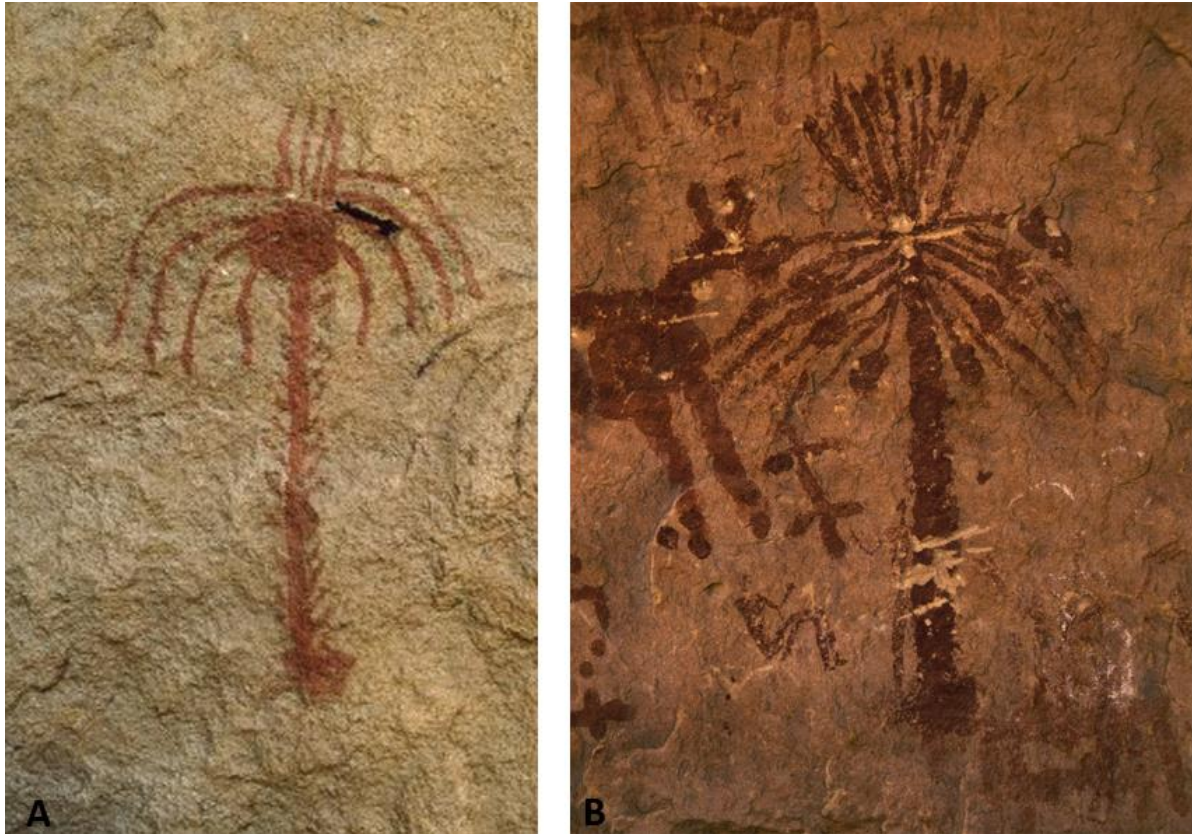


FIG. 5.19. Paintings interpreted as the common date palm *Phoenix dactylifera*, Libya (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA).

Other plants display similar features to the pinnate *Phoenix* spp. such as tree ferns *Alsophila dregei*, and cycads (*Encephalartos* spp.). While these have single trunks and produce large frond leaves, there are several key morphological differences between them and palm trees. Their trunks are shorter, and wider relative to their height than that of palms, their leaves unfurl from the centre of the crown as opposed to growing straight, miniatures of the adult palm leaves. Both cycads and tree ferns have leaf scars on their trunks, but they do not retain the stem bases and so their trunks are smooth. Tree motifs with lobed canopies or pinnate leaves are found throughout Zimbabwe, and tree ferns and cycads are limited in their range of habitat. Even accounting for habitat loss, cycads and tree ferns do not occur over as vast a range as these motifs are found and so are unlikely to be candidates in identification.

There are no other plant species in southern Africa that have large palmate leaves like that of the fan-palms. Palmate leaves and branching from the crown are therefore sufficient identifiers of fan-palms. They have been identified in the rock art in Zimbabwe (figure 5.17C), and Namibia (figure 5.20). The large, round shapes and palmate leaves seen on the tree at Mimosa Farm (figure 5.17B) suggest that the tree could be a fan-palm. The large rounded shapes could be fruit but both genera produce fruit in drupes, not singly. A more likely explanation is that these rounded shapes are birds' nests (potentially those of the African palm swift, *Cypsiurus parvus*, which adhere their nests the underside of palm fronds with saliva) discussed in Chapter 6.

Palms are widely exploited as a resource across Africa (Orwa *et al.* 2009: 2). Almost all parts of the palm are used for a variety of purposes including: food, fuel, construction material (for weaving and timber), medicine, alcohol, and magic/witchcraft (Gruca *et al.* 2009: 1–5; Orwa *et al.* 2009: 1). The flesh and the 'nut' of the fruit are edible and relished (Coates Palgrave *et al.* 1977: 68). The sap of the palm is tapped from the tree and drunk, most commonly as palm wine (Coates Palgrave *et al.* 1977: 67–9; Cowling *et al.* 2004: 476; Sola *et al.* 2006)



FIG. 5.20. Painting of a tree with fan-shaped fronds tentatively identified as *Hyphaene petersiana* (Mguni 2009: 142) (Damaraland, Namibia. Redrawn from RARI image. Colours: Black = Dark Red, Dark Grey = Red, Light Red = White).

Kirkia acuminata

There are paintings of four arboreal forms at Mucheka 1 on a large and complex panel (figure 5.21). All four arboreal figures are painted next to one another. They are located directly above a large set of formlings with the rightmost figure in or over a large spiral. The three to the right are badly faded but the leftmost figure has been preserved with a high level of detail. They have short, narrow trunks, with pinnate leaves emerging from the crown. These leaves are on

bifurcated branches and have short leaflets, and only one has a terminal leaflet. The three additional terminal leaflets recorded by Goodall (figure 5.21B) could not be seen even using digital enhancing software (D-stretch) and accounting for fading. The leaves are outlined in white and are decorated with white dots. Goodall (1959: 76), David Coulson & Alec Campbell (2000), and Mguni (2002: 155) identify these as *Kirkia acuminata*. *Kirkia* leaves are imparipinnate and have between 6–10 pairs of short leaflets with a single terminal leaflet (Coates Palgrave *et al.* 1977: 354). The short leaflets and the bifurcating leaf-branches mark these as *K. acuminata* as opposed to *P. reclinata* (Coates Palgrave *et al.* 1977: 354)—this branching pattern is most notable in young *Kirkia* saplings. *Kirkia* spp. have a long history of use in southern Africa. In Zimbabwe, they are widely used for various medicinal purposes as well as sources of fodder for livestock (Coates Palgrave *et al.* 1977: 354). Some groups in Zimbabwe and northern areas of South Africa believe that large *Kirkia* trees, especially those planted around homesteads, are sacred (*ibid.*). The Shona believe that these trees are home to their ancestral spirits (Maroyi 2016: 2511). This tree’s widespread use, current centrality in local beliefs, and a wide range of ethnomedicinal uses, coupled with the branching and leaflet structure make this a likely candidate for the trees at Mucheka 1. However, the lack of terminal leaflets and the white dots should be noted. White dots are a common embellishment in the rock art of Zimbabwe and South Africa, and these might not be actual representations of morphological features on real *Kirkia*. Such dots are found on figures on the same panel, most notable on the spiral over which the tree is superimposed.



FIG. 5.21. Two copies of a tree motif at Mucheka 1 (Mashonaland East). **A)** Redrawn from photograph (SARADA. Edited: Surrounding figures removed. Colours: Black = Dark Red, White = White, Grey = Artificial blank background); **B)** historical copy of the same motif (Goodall 1959: 76 Fig. 5.25).

Zanthoxylum capense

The leaves of the small knobwood tree *Zanthoxylum capense* are imparipinnate with 3–10 short, opposite leaflets and a terminal leaflet, though in most cases, the terminal leaflet is missing (Grant & Thomas 2005: 387). These leaves have translucent but visible dots along the leaf margin, which are pellucid glands that hold aromatic compounds (*ibid.*). These glands are a key diagnostic feature of plants in the family Rutaceae. When crushed, these leaves produce a strong citrus aroma (*ibid.*). *Z. capense* belongs to the Rutaceae family along with all citrus trees, as well as aromatics like Buchu (*Agathosma betulina*) (Moolla & Viljoen 2008: 414).

The paripinnate leaf structure and the branching pattern match with those found on the figures at Mucheka 1. The white dots on the leaflet margins could be the glands filled with aromatic oils found on *Z. capense* leaves. San groups place a great deal of importance on smell and because of this many aromatic plants are very important to them. *Z. capense* has a strong aromatic component, similar to that of buchu, which has been widely recorded to have been used by the San (LL.VIII.14.7282; Mguni 2002: 164; Hollmann 2004: 177; McGranaghan 2012: 483), and which also have these same glands on its leaves (Moolla & Viljoen 2008: 414). These factors could make *Z. capense* or other *Zanthoxylum* species more likely candidates than *K. acuminata*.

Fruit and Flowers

There are 26 individual trees with fruit, from 12 sites; and a single tree from one site with flowers. These are highly stylised and do not aid in identification, with the exception of figure 5.23 and potentially figure 5.25. Other ways fruit are represented is on large hanging drupes most commonly seen on palms. All other examples of trees with fruits or flowers are devoid of other foliage and have short roots.

Fruit-bearing trees are both literal and symbolic representations of fecundity, as evidenced by the ethnographic material collected by Thomas (1959: 79) and Keeney (2003: 83). God's house is always seen with supernatural trees constantly bearing fruit (Keeney 2003: 42, 83), and for the G|wi the first children dropped from trees like fruit (Thomas 1959: 79). It is therefore likely

that the majority of fruit-bearing tree motifs are depictions of these trees of the spirit-world and may represent supernatural rather than ‘real’ trees.

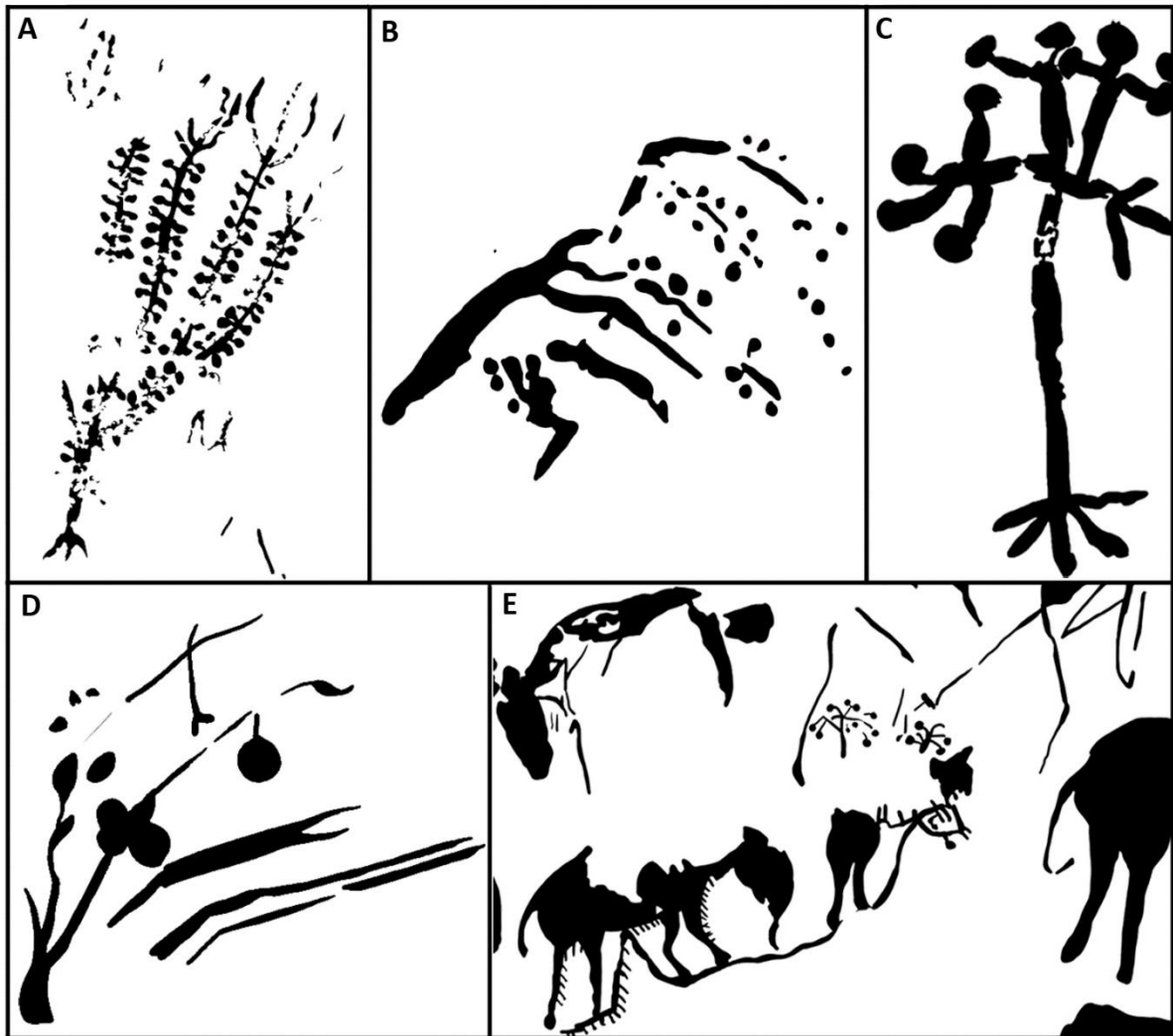


FIG. 5.22. Five examples of trees with fruit described in text. **A)** Ngomakurira 1 (Mashonaland East. Redrawn from image courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA. Colour: Black = Red); **B)** Gambarimwe 1 (Mashonaland East. Redrawn from image courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA. Colour: Black = Black = Dark Brown); **C)** Gambarimwe 1 (Mashonaland East (Redrawn from image courtesy of J. Hollmann. Colour: Black = Red); **D)** Lesapi Falls (Manicaland. Redrawn from J. Lutz, FBA-C1 01516, © Frobenius Institute. Colour: Black = Ochre); **E)** Manyeni Reserve (Mashonaland East. Redrawn from, E. Mannsfeld, FBA-D3 01524, © Frobenius Institute. Colour: Black = Dark Red).

Specific identifications of painted trees

Ficus spp.

Ficus spp. or fig trees are found throughout much of southern Africa. There are 36 species indigenous to southern Africa including *Ficus ingens* and *F. soldanella*, *F. londeri*, *F. capensis*, and *F. sur* (Tree Society of Zimbabwe 2018).



FIG. 5.23. A) Human figure with a distended stomach eating fruits from a *Ficus* spp. tree (Goromonzi, Mashonaland East. Hubbard 2013: 17 fig. 3); **B)** redrawing of the same panel (After Garlake 1995: 60 fig. 64).

Ficus trees' most notable and distinguishing features are their roots and their drupes of fruit. They have large, adventurous roots which allow them to grow out of the smallest cracks in rocks and cliff faces. They are cauliflorous, i.e. their flowers and fruits form on the trunk and branches and not the shoots (Hickey & King 200: 7). Their fruit are large, round to oblong, and are borne on large drupes.

Figs are an important and widely-utilised food source for people and animals alike. Archaeobotanical remains show that hunter-gatherer groups in Zimbabwe would aggregate and settle in areas with abundant ficus trees to exploit this resource (Mguni 2006a: 54). Looking at the depth of and size of deposits in shelters, there is a correlation between the number of rock paintings and the extent and size of the deposits, indicating that there was more, or larger scale ritual activity when groups banded together, often to exploit these botanical resources (Walker

1996: 14; Mguni 2015: 162). Fig trees have the ability to grow out of tiny gaps in rockfaces, which are known to be the veil between this world and the spirit-world (Mguni 2015: 162).

Uapaca Kirkiana

This is a small tree averaging 5–6 m with a rounded canopy (Chirwa & Akinnifesi 2008: 331) that is found throughout the miombo woodland biome (Ngulube *et al.* 1995: 107). It is gregarious, often forming dense groves (Ngulube *et al.* 1995: 107). It is cauliflorous and bears yellow spherical fruit ranging between 2.5 – 3 cm which ripen between July and December (*ibid.*). The fruits are much sought-after by people and animals alike.

The cauliflorous fruiting, canopy shape, and gregarious nature are reminiscent of paintings found at Ngomakurira 1 (figure 5.22A & figure 5.25).



FIG. 5.24. *Uapaca Kirkiana* fruit growing directly from the branches (left Bart Wursten) (right Jarret Mhango).



FIG. 5.25. Tree motifs at Ngomakurira 1 (Mashonaland East). **A)** Original photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA); **B)** same as A (D-Stretch yrd).

The only recorded example of a tree with flowers is found at Efifi 1 (figure 5.26). The flowers are depicted as lighter-coloured lobes, some with petal-like crenellations. The presence of long lines of winged insects, which Mguni (2015: 144) identifies as bees, flying around these lobes further strengthens the argument for these being flowers.



FIG. 5.26. Flowering tree with bees (Efifi 1, Matabeleland South. Modified from Mguni 2002: 154 Fig. 4.15. Colours: Black = Red, Grey = Yellow).

5.2.2 – *Underground Storage Organs*

Underground storage organs (USOs) include roots, tubers, rhizomes, bulbs, and corms. As the name suggests, USOs are largely found underground except for some bulbs, e.g., members of the family Amaryllidaceae, most notably *Boophone* spp. (van Wyk & Gericke 2000: 156) which protrude from the ground. Each type of USO has a specific botanical definition but these distinctions are not evident in the classificatory system used by the image-makers. USO motifs appear to fall into two open classes (tubers and corms/bulbs). These open classes with generalised tuber motifs make a formal identification difficult and, in most cases, impossible.

USOs are the second most numerous botanical motif and comprise 31% of motifs used in this dissertation. Depictions of tubers in their ‘natural state’, i.e., not being used by people, are almost always depicted in bunches. Tubers are connected directly to each other (fasciculated)

as they grow in clusters (figure 5.27F, figure 5.28 and figure 5.29) or by thin root lines (figures 5.27B, D, & G, figure 5.28). They are almost always depicted as sprouting, i.e., with lines/vines/leaves emerging from the top (figure 5.27, figure 5.28, & figure 5.29). There is a large degree of variation in root shape although most roots are spindle-shaped (fusiform).

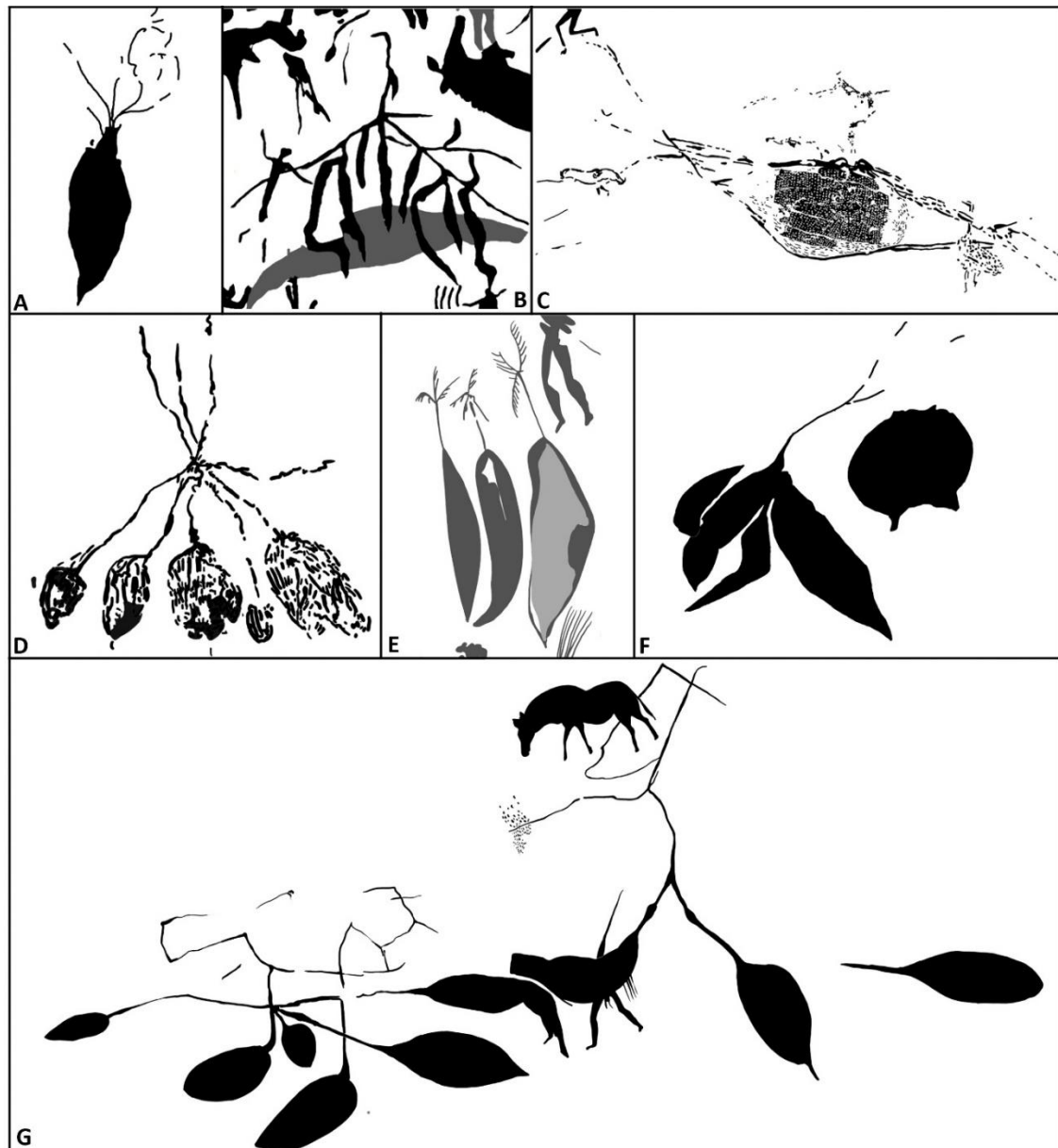


FIG. 5.27. Root motifs described in text. **A)** Murehwa 1 (Mashonaland East. Redrawn from RARI image. Colour: Black = Dark Red); **B)** Murehwa (Mashonaland East. Modified from Garlake 1995: 100 fig. 118. Colours: Black = Dark Red, Dark Grey = Red); **C)** Manemba 1 (Mashonaland East. Redrawn from photograph courtesy of J. Hollmann. Colours: Black = Red, White (white dots) = White); **D)** Tsengerai 4 (Manicaland. Redrawn from Nhamo 2014: 160 plate 40a. Colour: Black = Red); **E)** Bindura (Mashonaland Central. Redrawn from Goodall 1959 plate 32. Colours: Dark Grey = Red, Light Grey = Light Red); **F)** Rodia (Harare. Redrawn from image courtesy of Steve Tatum. Colour: Black = Red); **G)** Ruchera (Mashonaland East. Redrawn from J. Lutz, FBA-D4 01619, © Frobenius Institute. Edited: numerous surrounding figures removed. Colour: Black = Dark Red).

USOs are most often painted in a single, uniform colour, although the roots painted at Tsengerai 4 (figure 5.27D) and the large roots at the top of the panel at Thetford (figure 5.28) are painted with longitudinal stripes. Figure 5.27C shows one of the three large roots found at Manemba 1 which contain dotted formling-like cells possibly showing a conflation of the two motifs.

Multiple forms and variations of root motifs are found at Thetford (figure 5.28) and Surtic Farm (figure 5.29). The large root motifs at Thetford bear some resemblance to fruiting structures or seedpods (Nhamo 2020: 11) but I classify them as roots because they appear to be sprouting. This site contains numerous other USOs (and their associated motifs) with round, sprouting bulb/corms located on the left-hand side, to the right of a procession of dancing female human figures. Directly to the right and above are several fasciculated roots, both solid and striped. Directly to the right of these are geophytic phytanthropes, and below these are multiple groupings of fusiform roots connected via thin lines. At Surtic farm (figure 5.29), there is a similar selection of USO motifs with the exception of phytanthropes, as well as motifs associated with USOs (specifically burrowing and rooting warthogs).

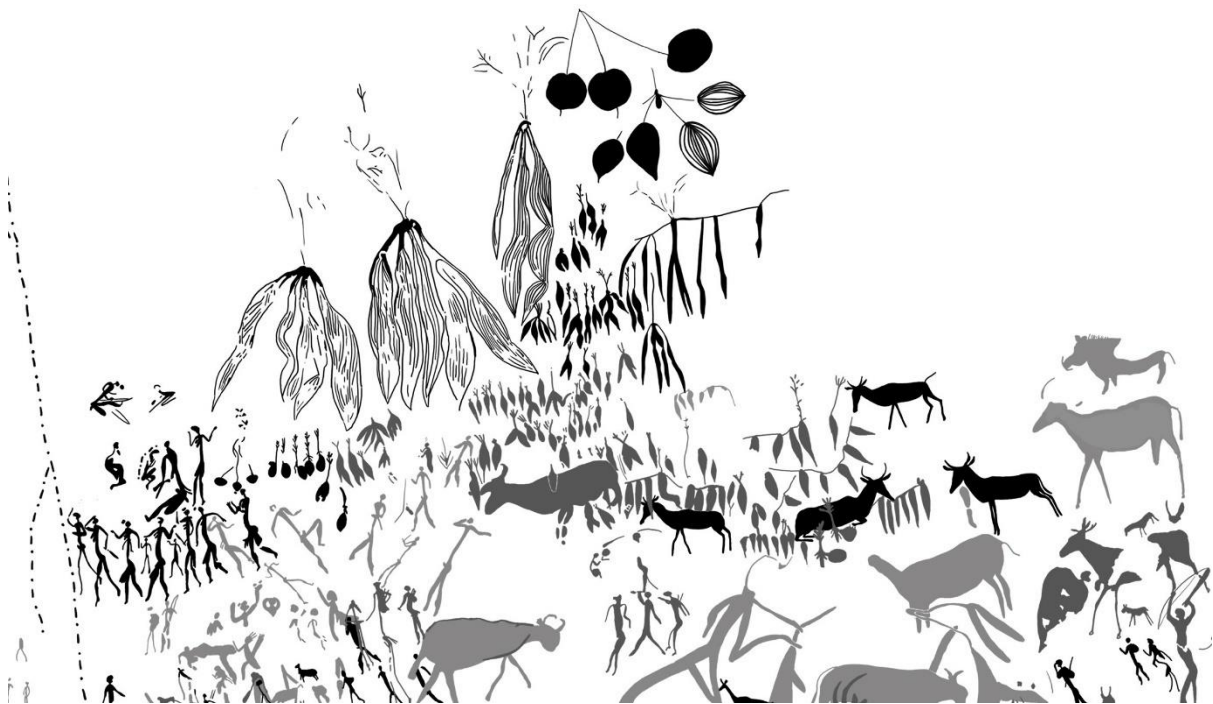


FIG. 5.28. Root and bulb/corm motifs (Thetford, Mashonaland Central. Redrawn from image courtesy of J. Hollmann. Colours: Black = Black, Dark Grey = Dark Red, Grey = Orange).



FIG. 5.29. USOs at Surtic Farm (Mashonaland Central. Redrawn from Goodall 1959 figure 27. Colours: Black = Red, Dark Grey = Orange).

Corms (swollen underground vertical stems) and bulbs (modified swollen leaves) are externally very similar and are only easily distinguished once they are cut open. Corms are solid while bulbs that have concentric layers of leaves and leaf-scales. Both are singular, (one corm or bulb per plant) and often rounded to slight oblong on the horizontal axis with roots and stems growing from the centre bottom or top, like the motifs in figure 5.30. Bulbs are monocots, with the exception of *Oxalis* spp. Monocotyledonous and dicotyledonous plants may have corms.

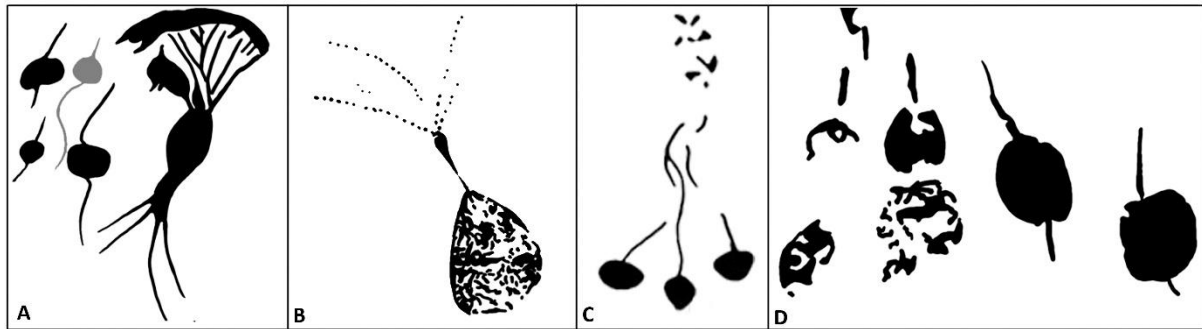


FIG. 5.30. Bulb and corm motifs described in text. **A)** Nyahuvu Farm (Manicaland. Redrawn from Goodall 1959 plate 55. Colours: Black = Red, Grey = Orange); **B)** Charewa (Mashonaland East. Redrawn from image courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA. Colour: Black = Dark Red); **C)** Thetford (Mashonaland Central. Redrawn from image courtesy of J. Hollmann. Colour: Black = Black); **D)** Gambarimwe 1 (Mashonaland East. Redrawn from image courtesy of J. Hollmann. Colour: Black = Dark Red).

There are paintings of humans interacting directly with USOs, although these are not common. Depictions of the grinding and pounding of roots are the most common (4.31 A, B, & C). Here, depictions of women are surrounded by long fusiform to cylindrical shapes, and upper and lower grindstones. This grinding and processing of USOs has only been recorded in juxtaposition with hunting equipment, most specifically arrows (e.g., figures 5.31A & C). At bottom left of figure 5.31A, is a male human figure with what are arguably seven arrow shafts at his feet, nine complete arrows on his right and one in his hands. This potentially shows the manufacturing of arrows and/or the application of arrow poisons. To what end this might have been depicted is perhaps the subject of further study. To the right of the woman pounding roots in figure 5.31B is a male human hunter with seven arrows (figure 5.32). This is the only other figure in the panel, highlighting the link between the roots being processed and arrows. In figure 5.31C there are two seated women with what appear to be arrows directly behind them. The woman in the centre is pounding a root while the woman to her right has an object below her with 11 lines/arrows radiating it, likely a container used for mixing poisons. These processes are markedly similar to how the Jul'hoānsi prepare arrow poisons from USOs (see Chapter 4 figures 4.1 & 4.2).



FIG. 5.31. Human figures interacting with USOs described in text. **A)** Silozwane 1 (Matabeleland South. Redrawn from RARI image. Colours: Black = Dark Red, Dark Grey = Red); **B)** Mucheka 1 (Mashonaland East. From Garlake 1995: 53 fig. 52. Colour: Black = Dark Red); **C)** Ngomakurira 1 (Mashonaland East. Redrawn from Goodall 1959 plate 40. Colours: Black = Black, Dark Grey = Dark Red); **D)** Garawizi (Manicaland. Redrawn from Nhamo 2014: 137. Colour: Black = Ochre); **E)** Madzimudzangara (Mashonaland East. Redrawn from Goodall 1959 plate 44. Colours: Black = Orange, Grey = White).

Figure 5.31D shows a human figure holding a large ovate root next to three similar-looking conjoined roots. Figure 5.31E show a female human figure and geophytic phytanthropes (human-root conflations) dancing around a circle containing 22 rounded bulbs/corms.



FIG. 5.32. Mucheka 1 (Mashonaland East. Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA).

Specific identifications of painted USOs

Boophone disticha

Boophone disticha is a geophytic plant in the Amaryllidaceae family with a large bulb (22 cm long 15 cm thick), and a large umbel of pink to red flowers (Neuwinger 1996: 10). *B. disticha* has been widely recorded as an arrow poison used by hunter-gatherers in southern Africa (Schapera 1925 in Mitchell & Hudson 2004: 51) and specifically in Zimbabwe (Dornan 1916 in Neuwinger 1996: 11). The USOs in figure 5.31A are possibly modelled on *B. disticha* because they have similar morphological features such as the thick rounded shape of the bulb and the short protrusions at the base are the roots, and are juxtaposed with scenes of root grinding and arrow making.

5.2.3 – *Leaves*

This category is defined as individual leaves and objects made from leaves. I place motifs into this category only when it is clear that they are not directly attached to or a part of a tree (i.e., canopy) or a whole plant, especially in cases where these may have faded and only the leaves remain. This category is further divided into subcategories: individual leaves (isolated and held), and plant ‘charms’ (oval and fan). In figure 5.33 two people hold what appear to be palm fronds, specifically fan-palms.



FIG. 5.33. Two humans holding fan-palm fronds at Gwangwadza 1 (Manicaland. Redrawn from image supplied by N. Calame-Darbellay. Colour: Black = Dark Red).

Plant ‘charms’

Plant ‘charms’ are distinct from the sticks and large palm fronds mentioned above. The ethnographic record shows that plant charms, which are most often made from aromatic herbs, are either burned with other ingredients such as animal fat in a tortoiseshell or the leaves and

stems are bundled and used as plant Medicine to placate various persons and animals, especially rain-animals (Wilhelm Bleek in Orpen 1874: 10, 12; Lewis-Williams 1980: 469; de Prada-Samper 2016: 50; de Prada-Samper & Hollmann 2017: 13). In the hunter-gatherer rock art of Lesotho and the Eastern Cape Province of South Africa, charms are most often depicted as oblong oval or feather-like forms human figures carry in their hand (McGranaghan & Challis 2016: 586–587). Garlake (1995: 137) classifies the oval-shaped motifs in Zimbabwe motifs as ‘leaf emblems’—not because they are leaves—but due to their elongated oval shape.

According to Garlake (1995: 137) the oval-shaped objects are seen most often in pairs hanging from the shoulders and arms of men, or held in the hands of humans interacting with animals associated with the rain (figure 5.34) and women with distended stomachs and enlarged genitalia (figure 5.35). In the instances where these oval shapes are painted being held by people ‘taming’ animals, I argue that they are possibly the plant ‘charms’ of aromatic leaves like those found in Lesotho in similar contexts.

The panel from Sindjanja (figure 5.34) is replete with rain metaphors; there is a human figure that holds an oval ‘charm’ in their right hand and their left hand extends to an elephant. This is similar to how animals (especially rain-animals) are led or ‘tamed’ by humans in the rock art in Lesotho and South Africa (Lewis-Williams & Pearce 2004b: 221) using plant ‘charms’ (Orpen 1874: 10; Lewis-Williams 1977, 166; Mguni 2002: 163; Hollmann 2004: 163; McGranaghan and Challis 2016: 590). The rain animals painted in Lesotho and parts of southern Africa are often painted being led by lines, with thongs, reins, or lassos attached to the front of them. These appear to be absent in Zimbabwe, perhaps suggesting a greater reliance on plant ‘charms’ for catching rain-animals and animals associated with rain. Above them and to the left is a female figure with an antelope head and a distended stomach, with lines, potentially menstrual blood or amniotic fluid (Huffman 1983: 51–52), emanating from her genitalia which zigzag down to a bicephalic rain serpent. The Jul’hoānsi in the Kalahari and the !Xam in the Northern Cape of South Africa believe menstrual blood is full of potency, particularly female potency (Huffman 1983: 52; Jolly 1983: 82; Stevenson 1995: 134; Hollmann 2004: 131; Eastwood & Eastwood 2006: 138). *Tsau n/om* is the Jul’hoān term for female potency and menstrual blood (Eastwood & Eastwood 2006: 138). For these societies, women, especially during menstruation, are associated with rain, so it is probable that menstrual blood is linked to rain. The presence of the rain-snake, the elephant, and the group of formlings below it further reinforces the association with rain.



FIG. 5.34. Sindjanja (Mashonaland East. Redrawn from E. Mannsfeld, FBA-D3 01629, © Frobenius Institute.
Colours: Black = Dark Red; Dark Grey = Orange, Light Grey = Faded Orange).



FIG. 5.35. Two examples of female figures with distended stomachs and oval ‘charms’ described in text. **A)** Gambarimwe 1 (Mashonaland East. Redrawn from image courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA. Edited: Surrounding figures removed. Colours: Black = Yellow, Light Grey = White); **B)** Manemba 1 (Mashonaland East. Modified from Garlake 1987: fig. 78. Edited: Surrounding figures removed. Colour: Black = Dark Red).

The oval possible plant ‘charms’ are similar in shape to those of many of the geophytes (elongated fusiform) but have a narrower section where they are held. Given their context, (‘charms’ used to interact with animals) and that similar shapes have been identified as herb bundles in the rock art of southern Africa, they might be bundles of leaves and not roots. Another possibility is that they are feathers; for example, figure 5.35A is found at a site with numerous bird therianthropes. Feathers held significance for the !Xam in their relation to specific birds (especially ostriches) and their ability to influence the wind and for their regenerative powers (LL.VIII.31.8750'-8752'; WB.VIII.998-1002; WB.XV.1403-1482).

I recognise a category of fan-shaped ‘charms’. They are triangular in shape with a narrow section that is held in the hand. In figure 5.36A the bottommost human figure holds a fan-shaped object in their left hand and extends their right hand to touch the head of an animal (likely an antelope or zebra). The leftmost figure holds an oval ‘charm’ in their hand. Above the animal is a tree surrounded by a field of flecks which flow either to or from a cylindrical object and the small, squat palm-like tree motif beneath them. The human in the top right-hand corner has an oval ‘charm’ attached to their arm and holds a snake in the same hand. The flecks, palm tree, snakes, and oval ‘charms’ (in specific contexts) all have strong connections with rain. The fan-shaped object is likely a ‘charm’ because it is being held by a person ‘taming’ the animal in the panel. Similarly-shaped objects are held by the human figure in figure 5.36B. They run along the undulating back of a snake that extends for several meters across the entire panel. The panel in figure 5.36D has palm trees both above and below the therianthrope woman with a distended stomach. She holds fans in each hand and has, much like those who

hold oval ‘charms’, two lines emanate from between her legs. White arrow-like shapes fly directly across these zigzag lines and are likely swifts or swallows (see Chapter 6), further reinforcing the emphasis on rain (Hollmann 2005a: 22).

The repeated associations between fan ‘charm’ motifs and those connected to rain strongly suggest that these objects were used much in the same way as those of the ostrich feather-brushes used by the !Xam. These brushes were anointed with aromatic herbs and pigments and waved so that the scent would make game animals behave in a specific way (LL.VIII.23.8029, 8072’ in McGranaghan & Challis 2016: 586–587). These brushes are found in the rock art in South Africa, Lesotho, and Namibia, all used by humans to ‘tame’ rain animals.

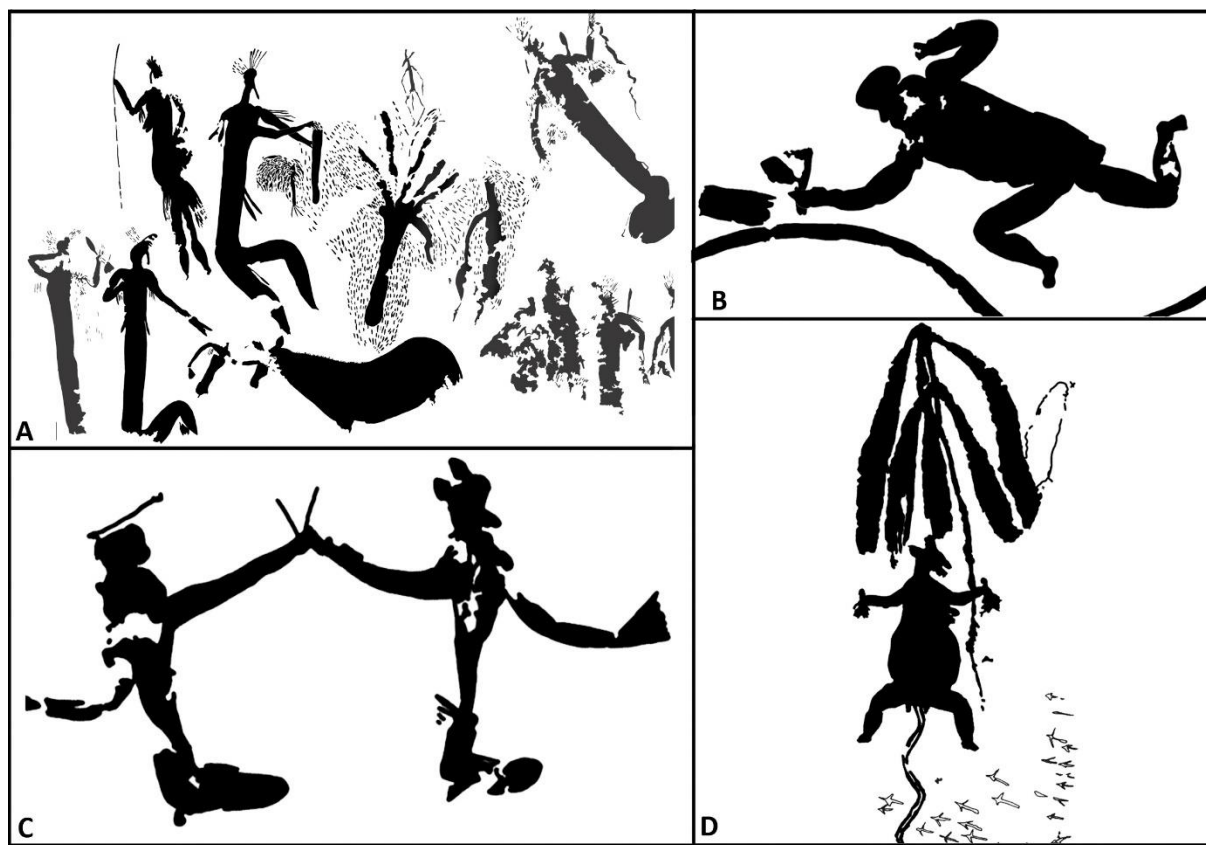


FIG. 5.36. Fan ‘charms’ described in text. **A)** Domboshawa 2 (Mashonaland East. Redrawn from RARI image. Colours: Black = Dark Red, Dark Grey = Red, Light grey = Faded red); **B)** Maholoholo 1 (Matabeleland South. Redrawn from RARI image. Colour: Black = Dark Red); **C)** Amadzimba 1 (Matabeleland South. Redrawn from SARADA image. Colour: Black = Red); **D)** Goromonzi (Mashonaland East. Garlake 1995: 88 figure 99. Colours: Black = Red, White = White).

5.2.4 – Fruit

Paintings of individual fruit (those not attached to a plant or tree) appear almost exclusively in scenes dominated by women with gathering bags, who are mostly seated, kneeling, or recumbent. I have recorded 118 fruit motifs, 112 of which are large oblong oval in shape, some with elongated necks suggesting that these could be bottle gourds (*Lagenaria sicerari*, *L. sphaerica*, or *L. breviflora*). Dornan (1917: 96) records that the Tati San, who inhabited areas in eastern Botswana and southern Zimbabwe, use gourds to make bottles, cups, and other drinking vessels. Paintings of these gourds are mostly unadorned, except those from Diana's Vow 1 which are decorated with white dots (figure 5.37). The large, recumbent, therianthrope figure at Diana's Vow 1 that dominates the scene is decorated with white lines and dots. Below this is a section with bags, baskets, and 52 gourds, many of which are decorated with white dots and patterns like that of the figure above. In figure 5.38 people hold gourds, whether singly or one in each hand, by the elongated necks. They are potentially being used as percussive musical instruments like shakers.

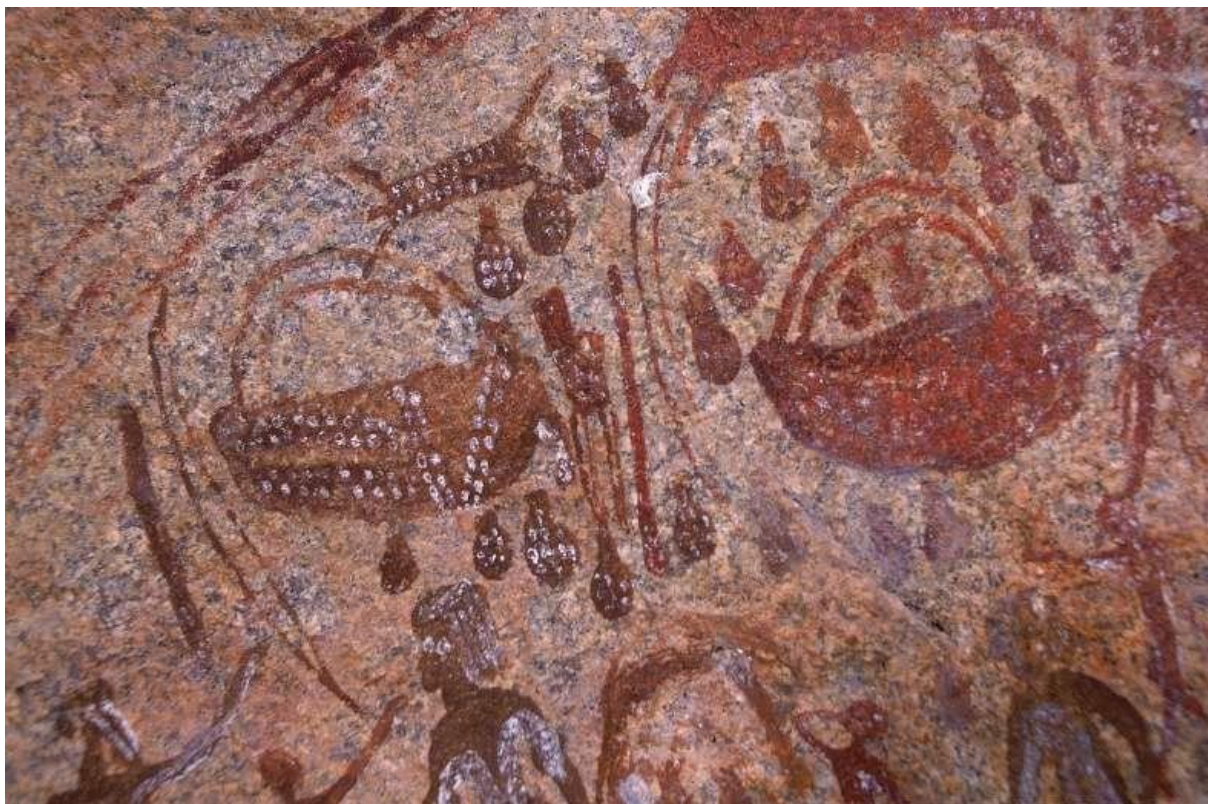


FIG. 5.37. Gourd-like motifs with white dots in a frieze with various gathering bags and baskets (Diana's Vow 1, Makoni, Manicaland. SARADA).



FIG. 5.38. Men carry hunting equipment and, possibly, gourds (Chehara, Masvingo. Redrawn from Nhamo 2014: 191. Colour: Black = Red).

In figure 5.39A a human figure carries a branch with small round fruit, or possibly flowers. He is the leftmost figure in a procession of hunters moving towards a non-real chimeric animal, with an elephant-like trunk, ant bear ears, and an antelope-like body, which has similarly-shaped rounded fruit growing directly from its body (discussed below in the phytomorphs section). This bunch of fruit could be being used to interact with this creature.

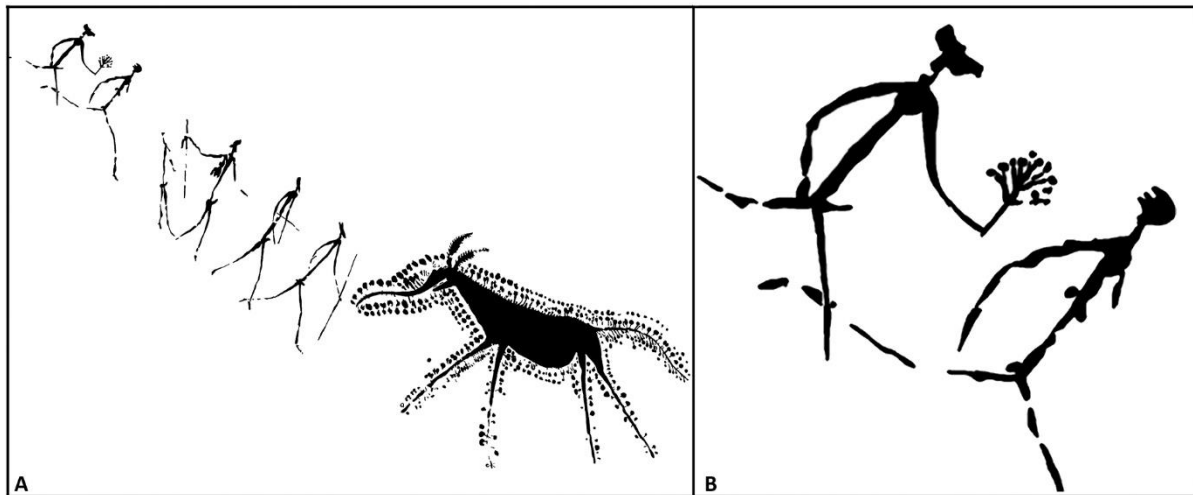


FIG. 5.39. Possible depictions of fruit and a fantastical creature described in text (Ngomakurira 1, Mashonaland East. Redrawn from image courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA). **A)** Full panel (Colour: Black = Dark Red); **B)** Close-up of human figure with bunch of fruit (Redrawn from A. Colour: Black = Dark Red).

5.2.5 – Mushrooms

Although fungi are not plants in the Western scientific taxonomical classification, the mushrooms (i.e., the fruiting bodies) they produce have long been regarded as plants for much of human history (e.g., Härkönen *et al.* 1995: 21). I have recorded eight mushroom motifs, four of which are found connected to or, more likely, growing out of formlings, and four are held by human figures. Mguni (2002: 99) and Cathelijne & Edward Eastwood (2006: 128) note that mushroom motifs are often associated with formlings.

Specific identifications of painted mushrooms

Termitomyces mushrooms

The graphic association between formlings (modelled on termitaria) and mushroom motifs suggest that these are *Termitomyces* fungi. *Termitomyces* is a genus of Agaricales fungi which are completely dependent on termites to survive. These fungi are in a symbiotic relationship with Macrotermitinae (a subfamily of termites) and produce food for the termites. The termites

feed and cultivate the fungi within their colony. *Termitomyces* spp. produce mushrooms (the fruiting structures of fungi) at the start of the rainy season, soon after the first substantial rains, which coincides with the termite alates swarming. The mushrooms emerge from the top of the termitaria. There are six species of *Termitomyces* in Zimbabwe: *T. clypeatus*, *T. letestui*, *T. microcarpus*, *T. schimperi*, *T. tilarticus*, and *T. titanicus* (Pearce & Sharp 2000: 221–222, 224). These species, except for the minute *T. microcarpus*, grow out of the tops of termite mounds. Because of this, *T. microcarpus* can be ruled out as a possible species depicted.

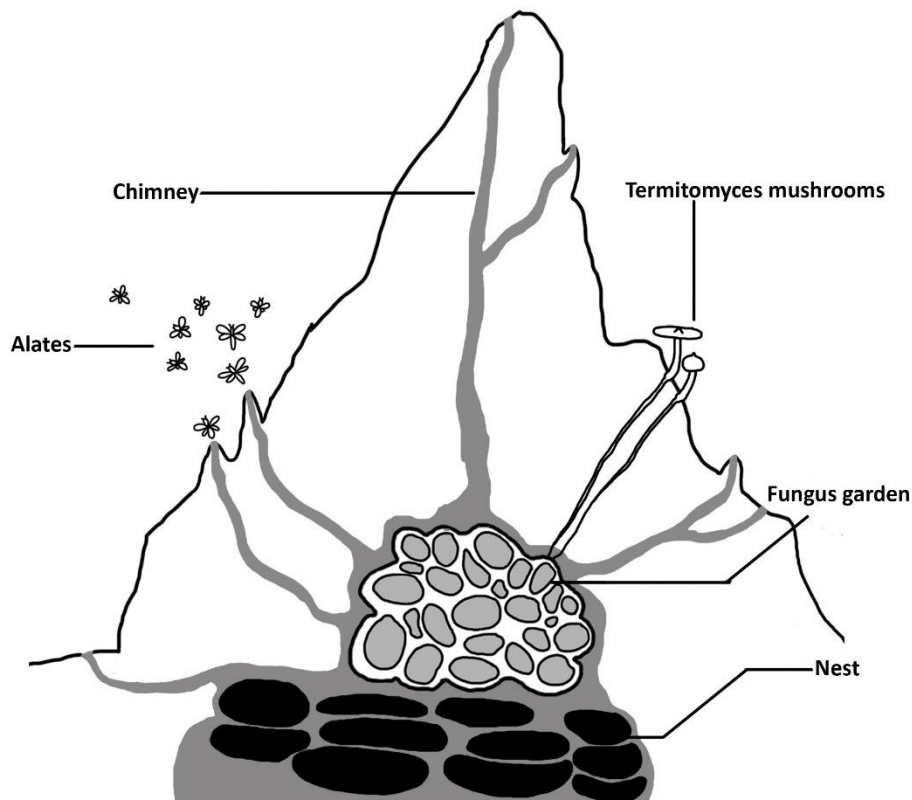


FIG. 5.40. Schematic cross-section of a termite mound (by author).

These fungi produce large mushrooms, with *T. titanicus* being the largest mushroom in the world, measuring 57 cm long (stipe length) and a cap that is 1 m in diameter (Morris 1986: 40). These mushrooms are all edible and are much sought-after as food. The cap has a rounded shape which opens up and flattens as it matures, resulting in a flat-topped cap with a distinctive umbo, the raised area at the centre of the cap (Morris 1986: 40), which can be seen in figure 5.40. Mushroom motifs—those that are not held by humans—are only painted on top of or growing out of formlings (figure 5.41), further reinforcing the likelihood that these motifs are *Termitomyces* or modelled on them.



FIG. 5.41. Mushroom motifs at varying stages of maturation, as indicated by the difference in cap shape (Gambarimwe 1, Mashonaland East. Redrawn from image courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA. Edited: background and other motifs rendered in black and white and opacity reduced to 10%. Colours: Black = Dark Red, Dark Grey = Brown; Grey = Orange).

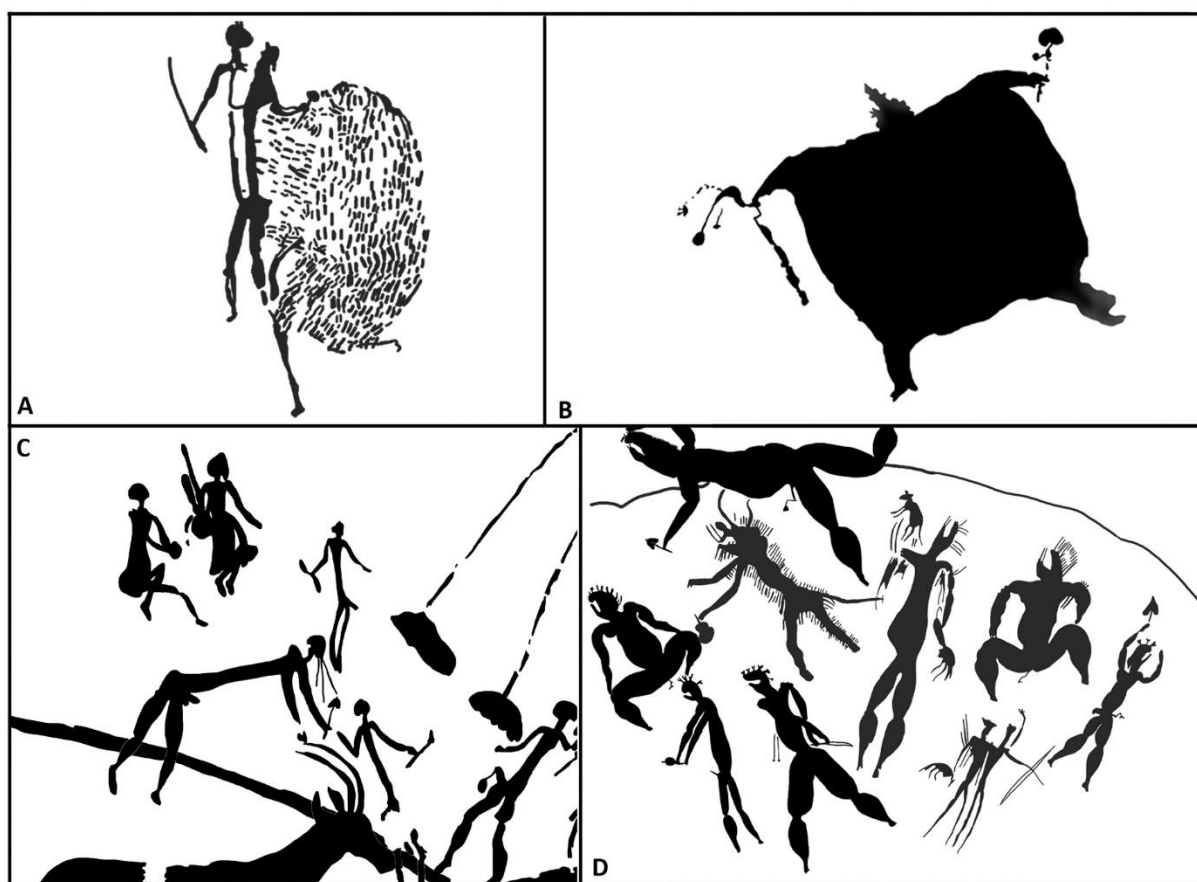


FIG. 5.42. Mushrooms held by human and therianthropic figures described in text. **A)** Oatlands (Harare. Redrawn from Nhamo 2014: 249. Colour: Dark Grey = Red); **B)** Chiremba (Harare. Redrawn from Nhamo 2014: 274. Colour: Black = Dark Red); **C)** Ngomakurira 1 (Mashonaland East. Redrawn from image courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA. Colour: Black = Red); **D)** Glen Norah Farm 2 (Mashonaland East. Redrawn from Goodall 1959: 89 plate 48. Colours: Black = Dark Red, Dark Grey = Red).

At several sites, humans and therianthropes are depicted holding mushrooms or mushroom-shaped objects (figure 5.42). These objects could be rattles or other artefacts but display many characteristics of mushrooms. In many instances, these figures are depicted in postures that indicate deep trance states and possess or are using a large amount of potency. In figure 5.42B the human figure has a swollen and enlarged body because it is full of potency (Yates *et al.* 1985: 72; Garlake 1995: 87–89) and they hold a mushroom-shaped object in their hand. In figure 5.42C a man is bent over and blood streams from his nose. He hands a mushroom to the human figure to his right. There are two seated human figures above and to the left of them, one of whom has her hands together either clapping, which would further emphasise the trance dance theme, or, she is holding a rounded object (because no distinct fingers are painted). There are seven therianthropes in figure 5.42D. They have thick necks and two teeth coming out of

their lower jaws. The therianthrope near the centre of the panel has tusks and is covered by large bristling hairs, all indicative of trance and transformation of ritual specialists (Garlake 1995: 146; Hollmann 2002: 567). Two of these figures hold mushrooms with pronounced umbones. Mushrooms are fragile and would likely break during the Great Dance, so it is likely that these motifs are modelled on mushrooms, particularly *Termitomyces* mushrooms, and are metaphors for the onset of rain and their association with termites.

5.2.6 – Flowers

Flowers are the rarest type of botanical motif in this study with only four flowers recorded from two sites. In figures 5.43A & B, human figures hold up a single, spherical shape comprised of small dots on a stalk, likely an inflorescence with delicate petals painted with minute dots. In figure 5.43C & D there are what appear to be three flowers, depicted as semi-circular shapes, each with its own stalk.. The manner in which these stalks are interconnected resembles the way in which many USO motifs are connected. However, the ‘flowers’ in question here differ greatly from the fusiform shapes of USOs.

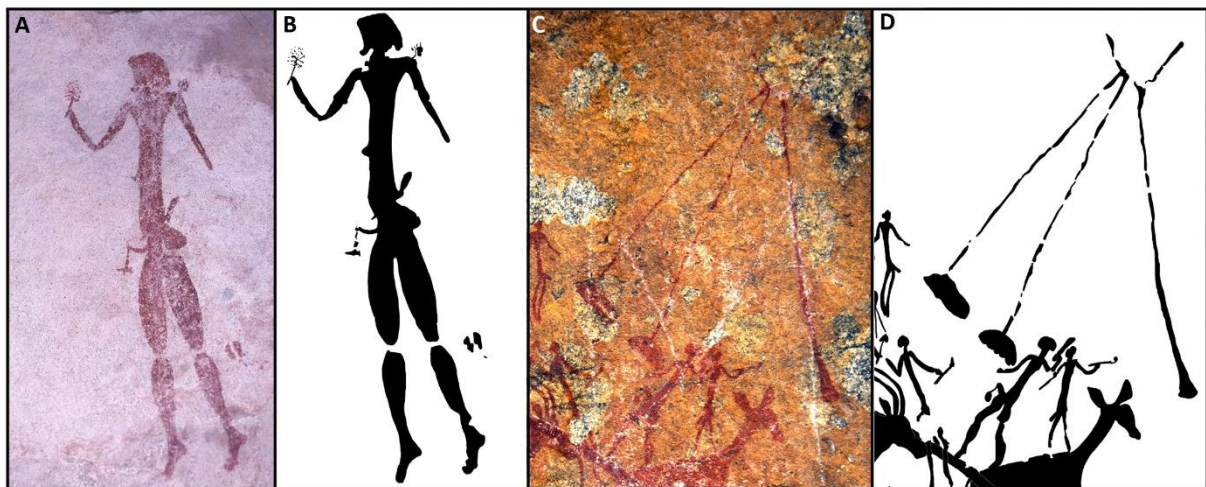


FIG. 5.43. Flower motifs described in text. **A)** Lone Star Ranch 14 (Masvingo. RARI image); **B)** Redrawn from A; **C)** Ngomakurira 1 (Mashonaland East. Image courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA); **D)** Redrawing of C).

5.2.7 – *Phytomorphs*

Phytomorphs are figures that combine botanical elements with those of other living organisms. These can be largely classed into phytanthropes (plant-human conflations) and phytotherians (plant-animal conflations). These conflations are not limited to just two organisms but can contain elements of plants, humans, animals, and formlings.

Phytanthropes

Phytanthropes have elements of different plants types and can be largely separated into geophytic phytanthropes, and those with more subtle plant-like characteristics. These are possibly humans in the process of transforming into plants, plants transforming into humans, humans who have taken some of the physical characteristics of plants (coupled with the perceived qualities those attributes would bring), representations of the somatic hallucinations experienced by those in trance, or chimeric entities that are part plant and part human.

Geophytic phytanthropes are phytanthropes that combine elements of USOs (roots, tubers, bulbs) with those of humans (Jeremy Hollmann, *pers. comm.* 2020). The panel at Thetford, Mashonaland Central (figure 5.28) contains the largest and most diverse collection of roots and tubers recorded in Zimbabwe so far. These tubers and roots are in varying shapes, sizes, and configurations but the vast majority are elongated fusiform shapes that are sprouting or are connected to others of the same type by horizontal lines. The three figures at the centre of this panel (figure 5.44) have humanoid shapes with tuber-like appendages, arms formed out of the horizontal connecting roots, and are sprouting leaves/vines from their heads (Jeremy Hollmann, *pers. comm.* 2019). Mguni (2015: 126) identifies the figure in figure 5.45B as a conflation of a formling and a tuber, which I argue is a phytanthrope because it has a similar composition with a body comprised of a single tuber and their arms of and head comprised of sprouting from the top. This phytanthrope differs from the others in that it has human legs and feet and cells with dots like those found in formlings; making this figure a plant-human-formling composite.



FIG. 5.44. Three phytanthrope figures isolated from the upper section of a panel at Thetford with numerous roots, and tubers (Thetford, Mashonaland Central. Redrawn from image courtesy of J. Hollmann. Colour: Black = Black).

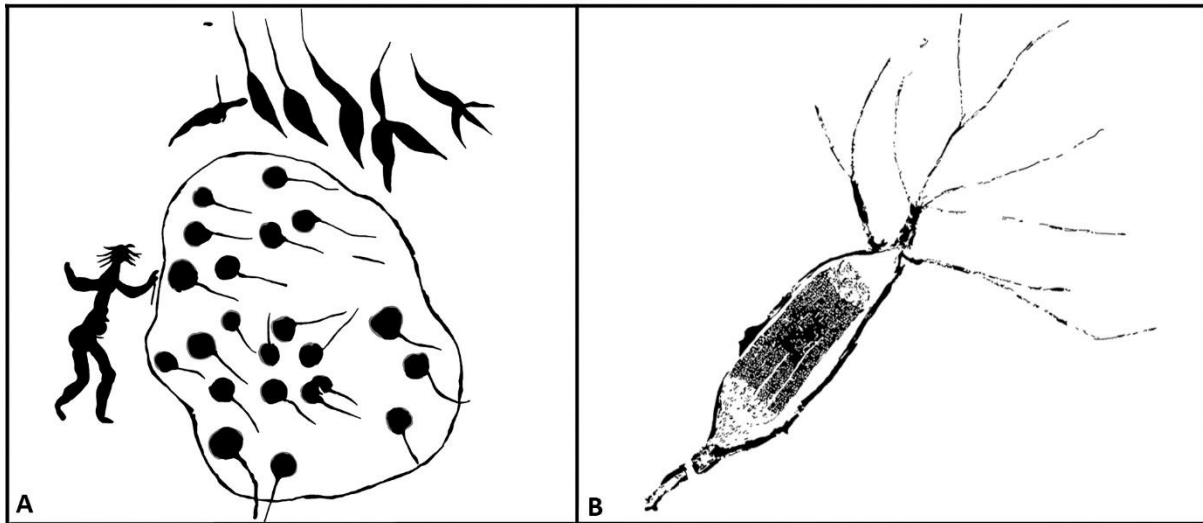


FIG. 5.45. Geophytic phytanthropes described in text. **A)** Madzimudzangara (Mashonaland East. Redrawn from Goodall 1959 plate 44. Colours: Black = Orange, Grey = White); **B)** Manemba 1 (Mashonaland East. Redrawn from image courtesy of J. Hollmann. Colours: Black = Dark Red, White (dots) = White.

To date, I have only found evidence of phytanthropes *with arboreal characteristics* in historical copies, and I am bound to say that I have not been able to verify these with photographs or fieldwork.

The second category of phytanthropes have predominantly human features with less obvious plant features. In a panel at Murehwa 1, there are several lines of processions of dancing men that run in parallel to one another. Many of these men have between three and six long protrusions that emerge radially from their heads (figure 5.46 & figure 5.47). I acknowledge that these protrusions may be headdresses or adornments of some kind, but they are significantly larger and longer than those of headdresses of similar styles I have seen in Zimbabwe.



FIG. 5.46. Human figure with plant-like projections emanating from his head (Murehwa 1, Mashonaland East. Redrawn from RARI image. Colour: Black = Dark Red).



FIG. 5.47. A procession of human figures with plant-like projections emanating from their head (Murehwa 1, Mashonaland East. Redrawn from RARI image. Colour: Black = Dark Red).

Phytotherians

There are only two examples of phytotherians that have been found in Zimbabwe, both from Ngomakurira 1. Phytotherians, as the name suggests, are creatures or entities that have both plant and animal features. The two creatures in figure 5.48 and figure 5.49 appear to be elephantine but from closer inspection, they differ greatly from other elephant motifs. Their limbs, tail, and trunk are much thinner in proportion to their bodies and they do not have the characteristic tusks and large, rounded ears. Their ears are narrow, pointed oval ears like that of an ant bear (*Orycteropus afer*). It is because of this that Nhamo *et al.* (2017: 2) identify the creature in figure 5.48 as an ant bear. The ears are similar to those of an ant bear but in both

cases, they are indented to give the appearance of fronds. I argue this is a chimeric animal with elements of elephants, antelope and ant bears, as well as elements of plants. Their entire bodies are surrounded by three layers of small, circular shapes. These shapes in the innermost layer are connected to the body by thin stalks. These are reminiscent of fruit and the way fruit on plants are depicted in the Zimbabwean rock art. The same method is used to paint fruit trees at a nearby panel (figure 5.22G & figure 5.25). In figure 5.49 there is a line of six men which leads towards the large phytotherian. None of the men carry any hunting equipment; the two men closest to the creature carry long sticks, and the man at the back of the line carries a branching structure with small circular shapes, likely a bunch of fruit. The scene is evocative of humans catching or ‘taming’ rain animals but in place of aromatic herbs they use branches of fruit, like those that grow out of the creature’s body.

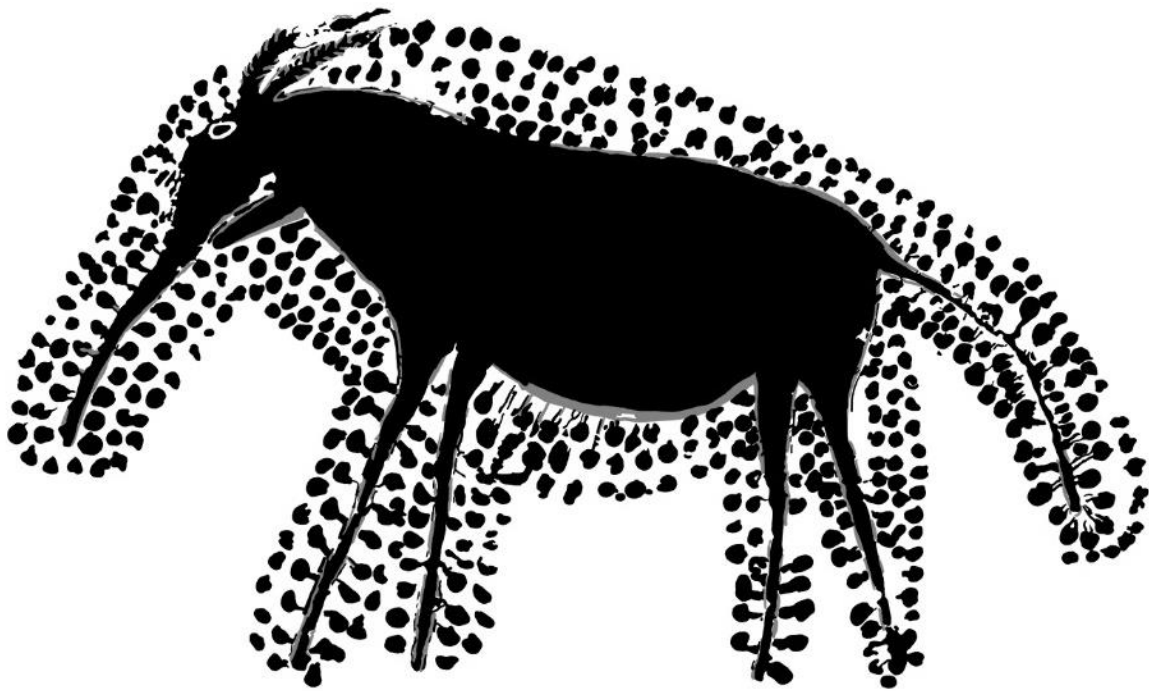


FIG. 5.48. A creature with elephant, ant bear, and plant features (Ngomakurira 1, Mashonaland East. Redrawn from image courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA. Colours: Black = Red, Grey = White).



FIG. 5.49. A line of human figures leading to a creature with elephant, ant bear, and plant features (Ngomakurira 1, Mashonaland East. Redrawn image courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA. Colour: Black = Dark Red).

Botanical motifs are modelled on a wide variety of plant types and genera, some of which are identifiable based on Western taxonomy and others on likely emic groups. Although modelled on natural forms, many of the plants painted are conflations or have features of several plants or are not from the ‘real’ world, but rather are found or used in the spirit-world. This wide variety includes conflations of plants with humans, termitaria, and animals. From the study of 613 individual botanical motifs it is evident that identification of the plants on which these motifs are modelled on is of paramount importance and even Western taxonomic identifications can prove to be a very useful starting point for understanding the roles plants played in every aspect of the lives of the hunter-gatherers of Zimbabwe.

CHAPTER 6 – PAINTED CONTEXTS AND ASSOCIATIONS

Botanical motifs, and the plants and concepts they represent, have numerous meanings, but they are still only a part of a larger system of beliefs. They form several points in a complex web of relationships between all other actors in the hunter-gatherer cosmology and ontology. They provide context which informs the interpretation and meanings of other motifs and vice versa. In this chapter I examine a wide range of motifs including termites, formlings, tsessebe, roan, sable, rain-animals, swifts, red-billed queleas, and flecks, as well as men and women. I briefly examine each individually and then explore how they relate with one another and with plants to demonstrate how each forms a part of this intricate and nuanced network of relationships. Humans are an integral part of this web but not the nexus (central point) of it and many of these actors interact and have their own relationships separate to that of human persons. Similarly, the aforementioned motifs are frequently found in contexts without plants or formlings and so the associations below are not exclusive.

There are however several limitations to assessing association in this way, primarily the issue of assuming a link between motifs based on proximity, wherein there is less control over the chronology of when each image was painted. As discussed in Chapter 3 the artists likely placed motifs with intentionality even if they were painted with a big time difference.

I foregrounded this discussion and analysis with ethnographic material from the Kalahari, Maloti-Drakensberg, and Northern Cape regions of South Africa, pertaining to rain (in its various forms), specific animals, women and femininity or ‘femaleness’ in San New Animistic ontologies, in order to better understand the role relationships between them. I test these against the rock art of Zimbabwe (at sites with botanical motifs) to ascertain if similar patterns are present. As will become apparent, animals whose behaviour is centred on rain (both ethologically and emically), and ideas of ‘femaleness’ and fertility are inextricably linked.

6.1 – Rain

Rain dictates all aspects of life including growth of plants and movement of the game. It is unsurprising then that hunter-gatherers detail so many beliefs concerning rain. It is widely held that specific animals are linked both literally and metaphorically to water and rain (Marshall

1957: 236; Bieseke 1993: 88–89, 109; Lewis-Williams 2000: 25; Mguni 2002, 2004, 2005, 2006a,b, 2009, 2015; Hollmann 2005a: 24–25; Challis *et al.* 2013: 346). San groups ascribe varying degrees of personhood to rain (Low 2014: 171) e.g., the !Xam belief in *!Khwa*, which is water and rain (Bleek 1956: 431; Lewis-Williams 2000: 25) and the personification of rain (Lewis-Williams & Challis 2011: 94–131).

Specific animals and plants that are associated with the rain, especially those that come out or have specific behaviour directly related to rainfall that from an etic perspective are unrelated, are *!khwa-ka*, the rain's things (Challis *et al.* 2013: 346). The rain's things include:

“...porcupines (LL.V.13.5036), a species of fungus (LL.VIII.16.7446'), the //a//ara plant (LL.VIII.1.6126'), tortoises and puffadders (LL.VIII.6.4383'-4384'), //kerri-ssi-!kau, swallows (LL.V.21.5698–5701) and /koöde or 'magic power' (LL.V.13.4989).” (Challis *et al.* 2013: 346).

It is the ethology and the symbolic associations that made these the rain's things. Swallows' and swifts', as will be discussed, feeding and migratory behaviours are centred on rain. Puffadders become visible after rainfall (LL.V.6.4383-4384') largely because of the patterning of their scales (LL.V.6.4384'). Plants and fungi grow after sufficient rain. Other factors are more culturally specific: porcupines are believed to be connected to rain because of the distinctive white lumps of fat in their tail which are connected to hail and rain (LL.V.13.5036; LL.VIII.16.7405).

6.2 – Women and 'femaleness'

Based on ethnographic material collected in the Kalahari and Northern Cape of South Africa, it is clear that many of the extant San and hunter-gatherer groups in these areas have highly gendered societies (Solomon 1992: 291–292; Bieseke 1993: 116–117), with social organisation, beliefs, and practices centred on gender, sex, and age. Most notable is the repeated and widespread association between, women, menstruation, fertility, and rain, as well as their connection to plants.

Women are said to have excessive and dangerous amounts of supernatural potency during menarche and subsequent menstruations, concentrated in their menstrual blood (Huffman 1983: 52; Jolly 1983: 82; Solomon 1992: 296; Bieseke 1993: 165–181; Eastwood & Eastwood

2006: 138; Lewis-Williams 2015: 127) and at childbirth in the amniotic fluid (Marshall 1957: 235). Women, and their potency and menstrual blood, are intrinsically linked to weather, especially to rain (Jolly 1983: 82; Lewis-Williams 2015: 127). This is largely because the quintessence of ‘femaleness’ is, for the San, fertility (Bieseke & Barclay 2001: 75; McGranaghan 2012: 433), which is evidenced by the female initiation rites and dances among the Jul’hoānsi and !Xoõ, which occur at menarche and centre on fertility of themselves and the land (Heinz 1975: 8; Bieseke & Barclay 2001: 75). Both the rain and women have the ability to create.

This is best illustrated in the !Xam narratives of !Khwa and his relationship with the New Maiden, both characters in the Early Race mythology and contemporary tales. The New Maiden, a girl on the onset of menarche, must undergo ritual seclusion, and have her diet, water consumption, and behaviour restricted and controlled in order not to attract the attention of !Khwa (Hewitt, 2008[1986], in McGranaghan 2012: 433). !Khwa is the personification of the rain and is largely described as male. He is easily angered by the “unrestrained fertility” (McGranaghan 2012: 155) of the New Maiden. He is attracted to her scent and so this must be masked to hide her from him (LL.V.2.3869; LL.V.6.4393’-4394’; McGranaghan 2012: 137). This is done by burning *sã* (buchu) around her and anyone she came in contact with (Hollmann 2004: 130–131). *Sã* is also used to placate him outside of the restrictive ritual practices during menstruation. In contemporary tales young women perform ceremonies at places linked to water, like waterholes, to show their respect to him (LL.VIII.16.7418-7428; Hollmann 2004: 131). Although !Xam women are intimately linked with rain they could only affect it indirectly by means of observing often very restrictive behaviours and practices that mitigated !Khwa’s anger. Solomon (1992) argues that rain making, by capturing and killing a rain-animal, is in essence a form of hunting of a large game animal, which is largely the role of men, and it is because of this that women were not rain makers. However, in this she neglects the accounts of the role of some Jul’hoānsi and !Xoõ women in tracking and hunting (Heinz & Lee 1978; Bieseke & Barclay 2001: 78) and that the most celebrated game-shaman in the Bleek & Lloyd archives was a woman.

From the ethnographic record we know that the Jul’hoānsi (Marshall 1962: 234) and the !Xam believe in male and female rain, with female rain being preferred as it is gentle and regenerative (Solomon 1992: 297; Woodhouse 1992: 19–21) and male less desirable because it is destructive (Bleek 1933; Woodhouse 1992: 19–21).

6.3 – Ethology and Natural Modelling

The concept of natural modelling is that the natural world is a rich source of symbols used by shamanic societies (Whitley 1994). Without these symbols it would be near-impossible to depict these concepts graphically (Hollmann 2005b: 84). Animal figures proliferate in the rock art of southern Africa, therefore understanding their meanings is pivotal in understanding the rock art and the cultures that made it. Ethological traits of certain animals, whether morphological or behavioural, are used as polysemic symbols and metaphors for social and religious beliefs held by southern African hunter-gatherers (Mguni 2004, 2005).

Natural modelling is used successfully to identify some of the meaning of a wide range of different animal depictions found in the rock art, including lions (Lewis-Williams 1981: 95–7, Huffman 1983: 51), reptiles (Mallen 2005), insects (Mguni 2002, 2004, 2005, 2006a,b, 2013; Hollmann 2007), birds (Hollmann 2002: 564), kudu (Eastwood & Eastwood 2006), rhebuck (Mazel 1983; Challis 2005), and eland (Vinnicombe 1976; Lewis-Williams 1981, *inter alia*). It is also used to explain less ‘obvious’ (from an etic perspective) motifs (Hollmann 2005b: 84), such as formlings (Mguni 2002, 2004, 2005, 2006a,b, 2009).

Natural models are most often identified by their morphological features (Mguni 2004; 2006a: 53) and these are seldom features that accord with Western taxonomic classifications. Animals that are different species in terms of Western taxonomy, may often be grouped together in San classifications (Lewis-Williams 2002: 260; Hollmann 2005a: 22; Mallen 2005: 4), or because they share behaviours that link them together, such as their association with rain (Challis *et al.* 2013: 346). Southern African hunter-gatherers knew the animals around them intimately and so understood their behaviours (Hollmann 2003: 62). “Correct identification of the natural model in question is central to sustaining any argument about the significance of a given animal image”, (Hollmann 2005b: 84), as without it one can go no further in elucidating their meaning (*ibid.*).

Identification by morphological features is just the first step, but it is sometimes not sufficient in terms of identification (Hollmann 2005a,b). It is the way that the ethology relates to San cultural practices that sheds light on their meanings (Hollmann 2002: 564, 2005a,b).

Natural modelling has been used to identify more ‘abstract’ concepts, the most notable of which are the formling motifs which are pervasive in Zimbabwe. Mguni (2002, 2004, 2006a,b) identified formlings as sharing specific morphological feature with termite mounds, and using

ethnographic material identified some of their meanings including, but not limited to, rain, potency, creation myths, and women.

Animals play central roles in the mythology and cosmology of southern African hunter-gatherers (Hollmann 2005b: 84). Certain animals and their meat, fat, and blood are believed to possess supernatural potency and have the ability to affect the weather (*n!ao*) (Marshall 1957: 236; Parkington 1996: 283, 289). *N!ao* is a Jul'hoān concept but similar beliefs about animals with weather-controlling capabilities are held by the !Xam (Bleek 1933; Vinnicombe 1972: 201; Eastwood & Eastwood 2006: 112).

'N!ao is a complex of ideas relating on the one hand to men, meat animals and the weather and, on the other, to women, their children and the weather. Furthermore n!ao links hunting and childbirth to the weather (Marshall 1957: 236; Bieseke 1993: 88–89, 109)'. (Eastwood & Eastwood 2006: 111)

Ethnographic accounts from the Kalahari tell of 'great meat' animals such as giraffe, zebra, kudu, gemsbok, eland, roan, tsessebe, and hartebeest (Marshall 1957: 235; Bieseke 1993: 95; Eastwood & Eastwood 2006: 11). These animals contain *n/om* and have *n!ao* (Bieseke 1993: 95; Mguni 2006: 63).

Potency and weather-changing abilities were not isolated to 'great meat' animals. Elephants (Mguni 2006a: 63), along with termites (Mguni 2002, 2004, 2005, 2006a,b, 2009), certain reptiles (Mallen 2005: 7; Mguni 2006a: 63; Challis *et al.* 2013: 346–7; McGranaghan & Challis 2016: 592), and swifts (Lewis-Williams 2000: 25; Hollmann 2005a: 22, 24–25) are seen as inextricably linked to rain and water.

6.4 – Termites and termite mounds

Numerous scholars of Zimbabwean rock art note that arboreal motifs are often associated with formlings, and flecks or dots, although their interpretations vary (see Chapter 2) (Frobenius 1931; Goodall 1959; Garlake 1995: 87–89; Walker 1996; Mguni 2002: 5, 2004: 183; 2006b: 538; Mguni 2009: 142; 2015: 38). The work of Mguni (2002, 2004, 2005, 2006a,b, 2009, 2015) changed the way we understand Zimbabwe's rock art as he shows that the ubiquitous formlings contain elements of termite nests in their structure, and, informed by ethnography and natural

modelling, demonstrates that they are polysemic images relating to supernatural potency, and harbingers of rain (*ibid.*).

Much like other motifs in San imagery, formlings obtain ‘...their derivation from physical phenomena (both natural and cultural), sometimes combined with spiritual metaphysical elements’ (Mguni 2006: 53). Termite nests and mounds have deep spiritual significance because they are seen as portals to the spirit world, much like waterholes and rockfaces (Mguni 2006a: 62–63, 67). This is, in part, due to their structures, which transcend different physical planes as they are underground (the spirit world) and above ground (*ibid.*) (see figure 6.1). When termites metamorphose into alates (flying termites) and swarm out of the nests after the first rains, they effectively connect termite mounds to the sky (Mguni 2005: 41–42, 2006a: 67). Termite nests are supersaturated with potency (Mguni 2002: 62, 2015: 146–147) as termites are full of fat, which is desirable both as a food source as well as a source of potency (Jolly 1983: 75; Walker 1996: 72; Mguni 2004: 189, 2006a: 67).

Termite nests are a feature in San myths, specifically creation myths, where the first people were taken out of termite mounds by god (Eastwood & Eastwood 2006: 128; Mguni 2006a: 61–62). Because of their link to creation, power, and the spirit world it is argued that termite nests are seen as symbols and metaphors for god’s house (Eastwood & Eastwood 2006: 128; Mguni 2006a: 65, 2015: 144–145).

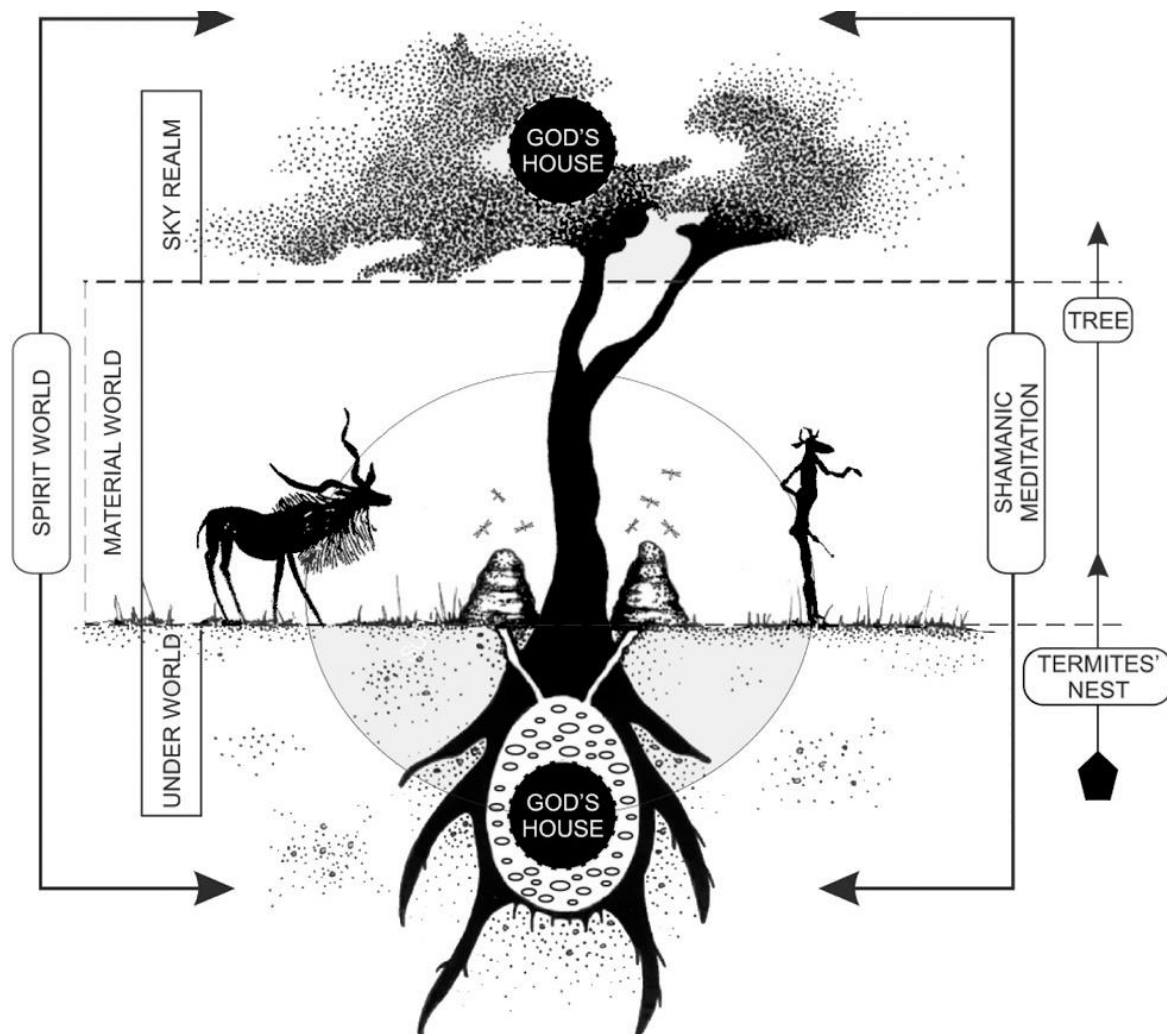


FIG. 6.1. Schematic diagram summarizes the perceptual interconnections between various natural and non-natural phenomena with a notional tree as the central “bridging conceptual pillar” in hunter-gatherer cosmology (Mguni 2006a: 66 figure 7).

Botanical forms are often painted in close association with formlings (Mguni 2006: 63, 2009: 142). Arboreal forms are regularly depicted directly in relation with formlings in the art of the Matopos (Mguni 2002: 5, 2006b: 538). This association is modelled on the natural world where it is widely observed that trees grow out of termite mounds (Turner 2000: 51; Traoré *et al.* 2008: 64; Moe *et al.* 2009; Okullo & Moe 2012; van der Plas 2013: 1, 3), and that some termites often build their nests in holes and crevasses in tree trunks (Mguni 2015: 146–147). Other plant forms are painted in association with formlings. In figures 6.2 and 6.3 people are using plant matter, likely leaves, to interact with the possible insects in the formlings. In figure 6.2 a human holds out what looks to be a bundle of leaves or grass towards the chimney of a formling. Oval flecks, many with single pairs of round protrusions that face downwards, are moving out of it. Mguni (2006b: 589, 2015: 95) interprets this scene as a depiction of people blocking up the

entrance of a termite mound with dry grass to prevent the alates from escaping; this method of harvesting alates is employed by the !Gui and ||Gana San in the Kalahari and is done in order to capture as many of these fatty insects as possible (Nonaka 1997: 30–31). Harald Pager (1976: 9) interprets this as a depiction of smoking out bees from their hive. Smoke is used to placate the bees in order to get stung less while collecting their honey, a practice widely recorded. Mguni (2002, 2004, 2005, 2006a, b, 2009, 2015) argues that the vast majority of formlings are modelled on termitaria but he does acknowledge that some of them are beehives (Mguni 2015: 146–147), although they are normally depicted as U-shaped hives (Mguni 2006b: 587). In either case, both Pager (1976: 9) and Mguni (2006b: 589) agree that these are insects moving into or out of the formling. Most of the insects in figure 6.2 have a single pair of short, round wings like those of a bee and not the double pair of oblong wings characteristic of alates for at Nanke 1 (figure 6.3) and Silozwane. However, due to the majority of formlings in Zimbabwe being modelled on termitaria, these are likely to be termites. The small, round wings at bottom of some of the insect are likely not wings but legs, as termite alates quickly shed their wings after landing from flight (Mguni 2006b: 560).

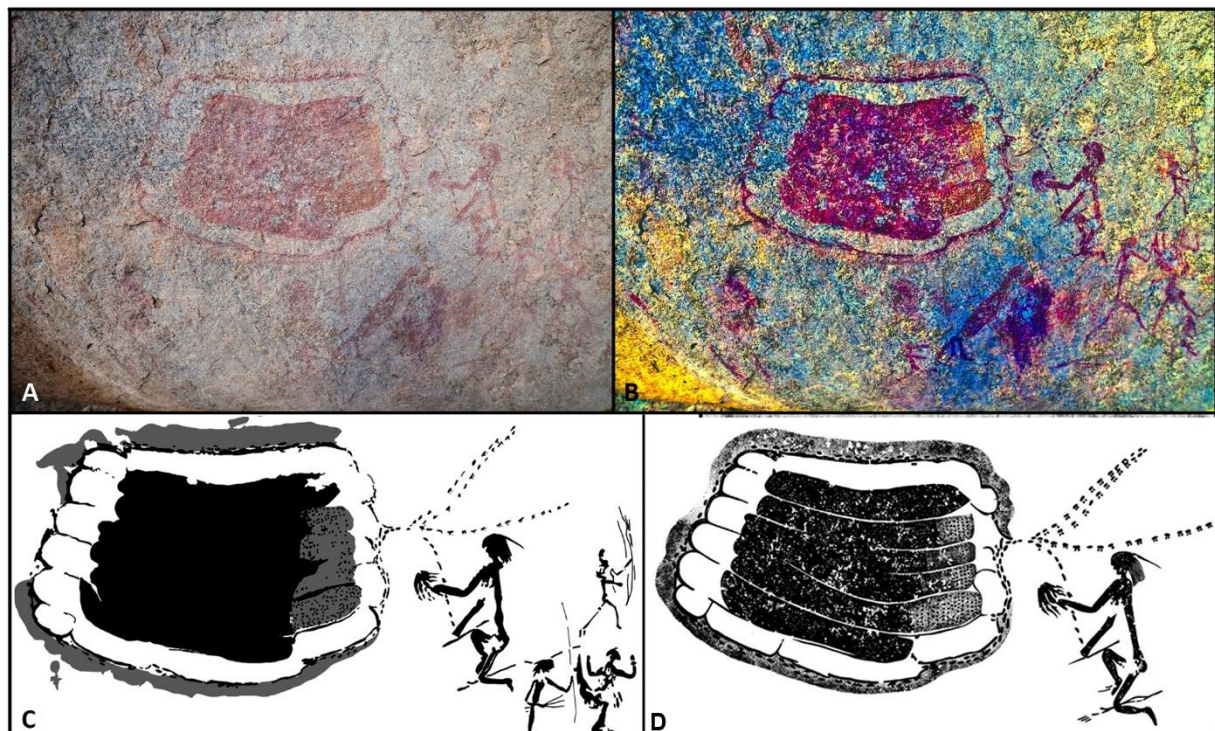


FIG. 6.2. Man holding up plant material at the opening of a formling, out of which winged insects fly (Toghwana Dam 1, Matabeleland South.) **A)** Image courtesy of J. Hollmann; **B)** A edited: D-Stretch_lds; **C)** Redrawn from image courtesy of J. Hollmann; **D)** Toghwana Dam 1 (Pager 1973 fig. 5 in Mguni 2015: 27 fig. 14).

In figure 6.4, a humanoid figure, who could be either a human with an antelope-eared cap or a therianthrope with rounded antelope ears, kneels at the base of a formling and holds a fan-shaped ‘charm’, potentially made of leaves of other plant material (see Chapter 5), towards a gap in the wall of one of the cells. There are numerous round dots in a narrow section of this formling that run from the gap in the cell, along the bottom of the rest of the formlings, into the rightmost cell which is comprised solely of these dots. Mguni (2006b: 595) interprets these dots as different from the oval flecks, and as worker termites, eggs, or nymphs. In both instances the plant material, likely leaves, is being used to alter the behaviour or movement of these insects, be they bees or termites.



FIG. 6.3. A) Small section at the bottom of the large panel at Nanke 1 (Matabeleland South) with tsessebe (three hornless antelope in black and one in light grey in close proximity to the bare tree motifs), kudu (top-left), waterbuck (bottom right and centre-left), humans, two bare trees, and alates. (Redrawn from image courtesy of N. Calame-Darbellay. Colours: Black = Red, Dark Grey = Orange, Grey = Yellow, Light Grey = White); **B)** Close up of the formling and alates with long double set of wings of the alates just above the formling (the rounded portion in the bottom centre-right in dark grey) (Redrawn from image courtesy of N. Calame-Darbellay).

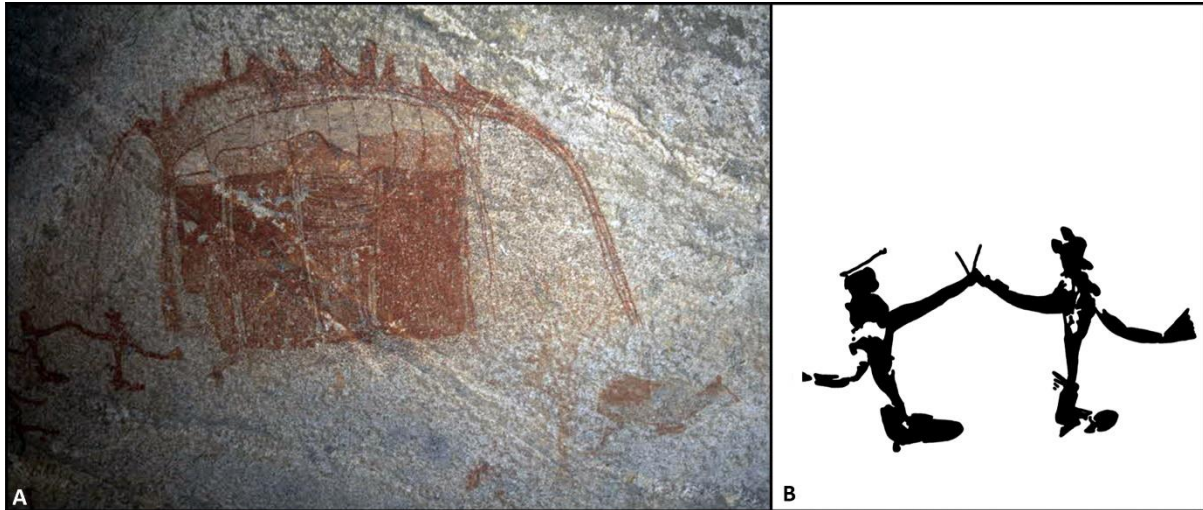


Fig. 6.4. **A)** Kneeling figures holds out a fan ‘charm’ described in text (Amadzimba 1, Matabeleland South. SARADA; **B)** Redrawing of two the figures (Colour: Black = Dark Red).

6.5 – Antelope

6.5.1 – Tsessebe

Tsessebe antelope (*Damaliscus lunatus*) are often painted with botanical motifs, particularly trees. They are often painted standing under or near bare trees. First, though, a note on the animals themselves. Along with the subspecies topi (*Damaliscus lunatus korrigum*) and hartebeest (*Alcelphaus* spp.) they form part of the tribe Alcelaphini. Tsessebe and topi (the term is often used interchangeably) were found historically throughout Zimbabwe and much of eastern southern Africa (Roberts 1951; Joubert 1972: 146–149; Estes 1991: 143; Furstenburg 2011b: 4).

Tsessebe and topi live in small, nomadic groups during the dry season and congregate into larger, more sedentary groups during the rainy season (Estes 1991: 143). The rainy season is when males perform competitive displays to attract females (lekking). Both males and to a much lesser extent females of tsessebe display particular behaviours (described below) throughout the year but more so during lekking (Joubert 1972: 146–149; Estes 1991: 144).

‘Topis often get down on their knees, rub their faces in and plow up a patch of mud (e.g. the base of a termite mound or margin of a water hole). Next comes vigorous headshaking and mud slinging, followed by wiping the horns on the

brisket and back (note topis wipe themselves with their horns, hartebeest with their heads). After a good rain half the topis one sees are mud-streaked and their horns, caked with mud, look unusually impressive'. (Estes 1991: 144–145).



FIG. 6.5. Kneeling behaviour in tsessebe and analogous postures in ritual specialists when in altered states of consciousness. **A)** Tsessebe kneeling on front leg in mud surrounding a waterhole (Image by, Carnivorous Sheep); **B)** A tsessebe on its front knees rub its face in the ground (Jay Galvin, CC BY 2.0); **C)** Painting of tsessebe kneeling on front legs (Chikomba, Mashonaland East. FBA-B 01706, © Frobenius Institute. Colour: Greyscale); **D)** San man kneeling with head down during the Great Dance (Origins: the film 2007).

Other lekking behaviours include reverse parallel (head to tail) and lateral presentation where two males will stand parallel to each other and move around in a tight circle while throwing their heads up and down in a motion called head casting (Joubert 1972: 148–149; Estes 1991: 20), which is unique to tsessebe (Joubert 1972: 149). This circling behaviour might be analogous to the circular pattern dancers move in during medicine and healing dances and the head casting to that of lolling of the head by those in trance. The head casting on its own is not noteworthy but, “In the context of healing and dancing, this suggests the lolling of the head in the trance states that Bushman dancers may enter after prolonged dancing and intense concentration.” (Hollmann 2005a: 26). Tsessebe may therefore be a natural model for some of the behaviours of people in trance (collapsing onto their knees, face rubbing, head casting while moving in circles).

A large number of tsessebe behaviours are centred on termite mounds to the extent that Richard Estes (1991: 144) notes that “Topi [Tsessebe] and termite mounds go together”. This connection is reflected in the rock art where tsessebe are often painted standing near, superimposed over or by, and juxtaposed with formlings. These behaviours are rarely foregrounded in the rock art, but I argue that the connections are likely allusive or penumbral (Lewis-Williams 1998: 89). Figure 6.5C is the only convincing painting of tsessebe on their front knees with their heads down; to the left is a man adopting a similar posture (back legs straight, bent over, and arms folded up).

Tsessebe occur frequently in the rock art throughout Zimbabwe (Walker 1991: 79). Tsessebe are found throughout the country. Their most distinct features are curved, bow-shaped horns (Furstenburg 2001b: 6), “elevated withers, drooping hind quarters, and their triangular form” (Harris 1852: 64). They are distinguishable from the similarly-built hartebeest by their horn shape, which are more rounded and less angular than those of hartebeest (Roberts 1951). In north-eastern Botswana, tsessebe are frequently depicted (Eastwood & Eastwood 2006: 112), and their frequency lowers further south. The vast majority of Alcelaphini antelope painted in Zimbabwe have the diagnostic horns of tsessebe and not hartebeest (Garlake 1995: 100; Walker 1996: 79). It is therefore likely that the paintings of hornless Alcelaphini antelope in Zimbabwe are tsessebe.

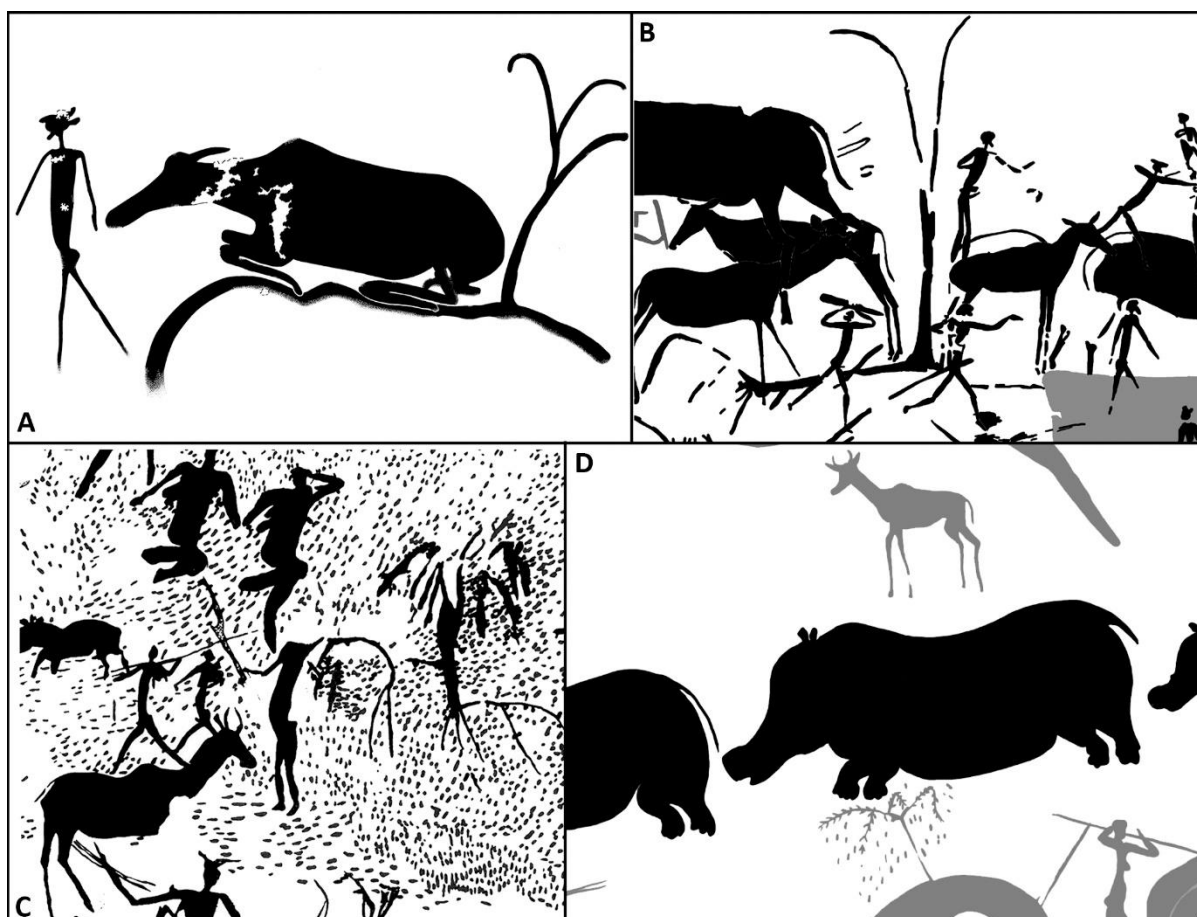


FIG. 6.6. Tsessebe and arboreal motifs described in text. **A)** Amadzimba 1 (Matabeleland South. Traced and redrawn by Mguni 1999. Colour: Black = Red); **B)** Nanke 1 (Matabeleland South. Redrawn from image courtesy of N. Calame-Darbellay. Colours: Black = Red, Grey = Orange); **C)** Murehwa (Mashonaland East. After Garlake 1995: 100 fig11. Colour = Black = Dark Red); **D)** Somerby Farm (Mashonaland West. Redrawn from Goodall 1959: 12 plate 6. Colours: Black = Black, Grey = Red, Light Grey = Light Red).

Tsessebe (including one example of a tsessebe therianthrope) are often painted with botanical motifs, especially trees (figure 6.6). In figure 6.7, the therianthrope has an antelope head with the ears and curved horns characteristic of a tsessebe, (cf. Cooke 1971: 19). There are tassels or lines emanating from their shoulders and under their armpits, also seen on the clapping human figure to its left. This therianthrope has their hand extended out, touching the trunk of a tree with a bare canopy, a clear indication of the link between the two. This image suggests that this is a ritual specialist who has transformed, in part, into tsessebe, taking on certain desired abilities and characteristics of this animal, such as their connection to rain and with the spirit-world via termite mounds and waterholes.

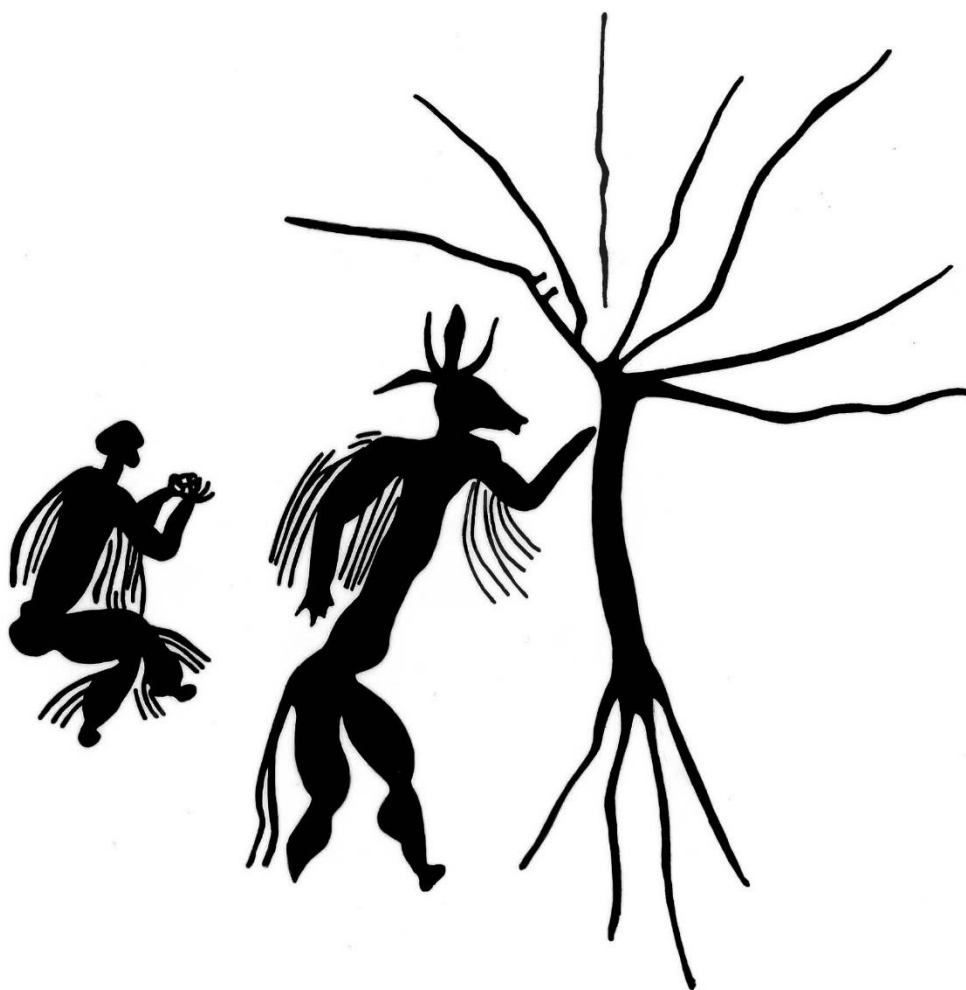


FIG. 6.7. A tsessebe therianthrope reaches out an arm to a bare tree (Murombedzi, Mashonaland West. After Cooke 1971: 19 fig. 17. Colour: Greyscale).

Tsessebe are only occasionally painted with USOs, but when they are this connection between the two might emphasise the underground (spirit-world) trope. The clearest example of this is at Thetford (figure 6.8) where tsessebe are painted standing and lying down with various tuberous roots, which can be seen in the boxed area, along with sable, roan, and warthogs (animals associated with the underworld, as discussed below).

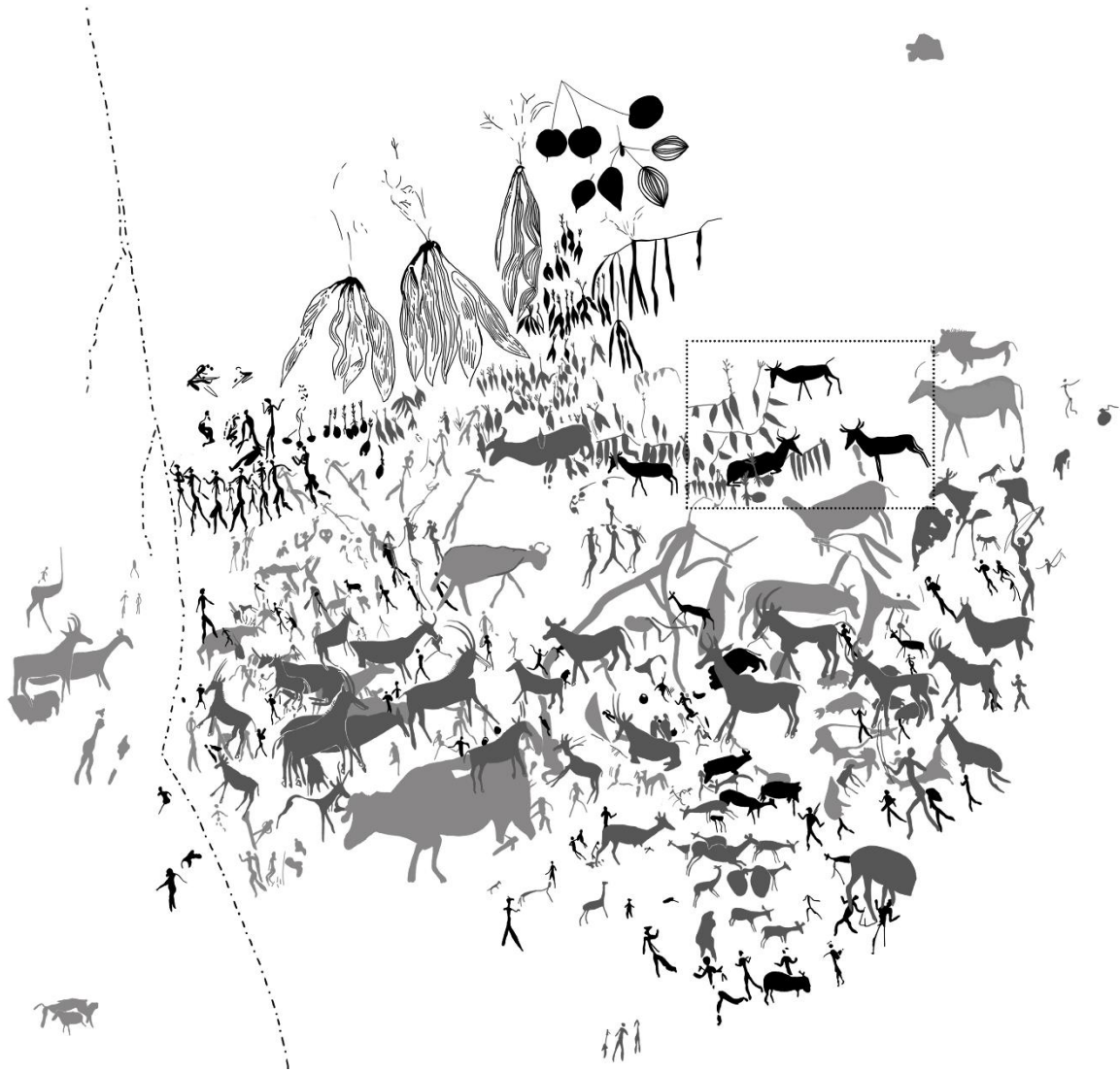


FIG. 6.8. A panel USOs, tsessebe, roan, sable, warthogs, and women. Box with dotted line highlighting tsessebe and USOs (Thetford, Mashonaland Central. Redrawn from image courtesy of J. Hollmann. Colours: Black = Black, Dark Grey = Dark Red, Grey = Orange).

Tsessebe are painted in association with formlings (Mguni 2002: 141, 2006a: 63), often painted on or behind them, which I argue is suggestive of tsessebe metaphorically walking into or out of formlings, into or out of the spirit world. These tsessebe are often painted juxtaposed with human figures near the formlings, in some cases suggestive of tsessebe following or being led out of these formlings by human figures. This is consistent with termite mounds being portals to the spirit world. This is evident in figure 6.9A, where there is a recumbent man who holds a stick in one hand and extends the other to the face of a faded tsessebe (Mguni 2015: 128). This tsessebe is painted behind the formling with its head at a gap in the wall of the outermost core as if the formling is walking out of it. There are oval flecks coming out of the same opening which are likely to be termite alates. In figure 6.9C there are two tsessebe, one of which appears

to be a juvenile. One very faded tsessebe is partially superimposed by a central cell of a formling, giving the appearance of it emerging from the formling. There is a kneeling man with the front half of his body in the formling cell to the right; behind him are two women, the first with her hands on his shoulders and the second with her hands on the first woman's shoulders.



FIG. 6.9. Tsessebe and formlings described in text. **A)** Matobo (Matabeleland South. After Mguni 2002: 30 fig. 4. Colour: Black = Red); **B)** Manemba 1 (Mashonaland East. Redrawn from image courtesy of J. Hollmann. Colours: Black = Dark Red, Grey = Orange); **C)** Markwe 1 (Mashonaland East. Redrawn from SARADA image. Colours: Black = Dark Red, Grey = Red, Light Grey = Orange); **D)** Ruchera (Mashonaland East. Redrawn from J. Lutz, FBA-D4 01619, © Frobenius Institute. Colours; Black = Dark Red, Grey = Red).

Tsessebe are strongly associated with termites and termite mounds, and in the art are often juxtaposed with formlings, trees, and rain metaphors. These motifs and associated themes appear to be inseparable, and interdigitate with one another to form part of a web of interactions between various entities, and mediations of supernatural potency.

6.5.2 – Roan and sable

Roan (*Hippotragus equinus*) and sable (*H. niger*) antelope form part of the tribe Hippotragini (Estes 1991: 139) and are the second largest antelope in Africa (Furstenburg 2011a: 2). They are easily distinguished (see figure 6.10) with sable having a black coat, white face with a continuous black line running from eye to nose, and significantly longer horns which start straight and only curve further up as they age (Smithers 1983). Roan having shorter horns that curve immediately from the skull, a longer tail, brown to fawn coat, and a black face with white masked facial markings (Furstenburg 2011a: 6). Animals are rarely painted in their natural colours, although sometimes distinctive markings are depicted (e.g. Hampson *et al.* 2002: 20), and this can make the distinction between roan and sable difficult in many instances. Garlake (1987b: 39) posits that they are most often sable in the rock art of Zimbabwe.



Fig. 6.10. Sable (left) (Stuart Orford CC BY-SA 2.0. Image cropped); Roan (right) (Tim Ellis CC BY-NC 2.0. Image cropped).

Roan and sable both display some behaviour similar to tsessebe, namely that they fall to their knees when fighting during lekking (Furstenburg 2001a: 9). However, they do not have any association with termite mounds, and do not perform face rubbing or soil horning. Roan antelope display a unique behaviour in which they fall to their knees and collapse in a “pseudo-death” when being hunted for a prolonged period of time (Furstenburg 2011a: 10). Once the predator draws near the antelope thrashes around violently (*ibid.*). This behaviour parallels the sudden and violent outbursts that Lorna Marshall (1962, 1969: 360) and Thomas Huffman

(1983: 49) noted of humans who have ‘died’ during deep trance states. A painting of a ‘dead’ i.e., upside-down sable/roan can be seen in figure 6.11.

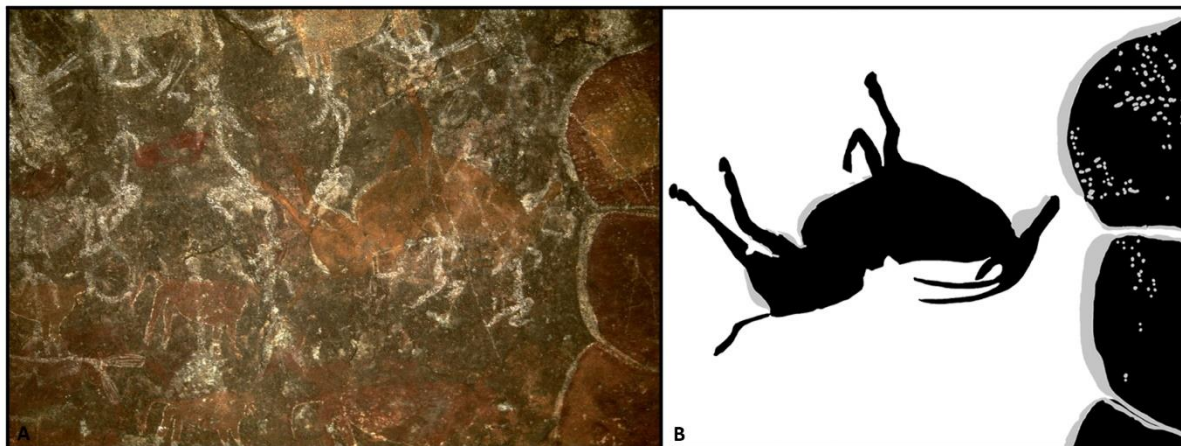


FIG. 6.11 Upside-down sable, formlings and baboons (Zombepata, Mashonaland Central.) **A)** Original photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA); **B)** redrawing of A (Edited: figures removed).

Sable are repeatedly painted deliberately positioned with motifs of explicit trance tropes as well as those linked to ‘taming’ and the spirit world (specifically underground and underwater). Prone antelope may be interpreted as ‘behaving nicely’, i.e. they are being ‘tamed’ by human figures who reach out to touch them, normally on the face (McGranaghan & Challis 2016).

A collection of connected tuberous USOs are painted directly behind a human figure which is superimposed by the head of a sable (indicated by the curvature of the horns) in figure 6.12A. Below are two female kudu, one of whom is lying down. In figure 6.8 17 sable (indicated by their horns and facial markings) walk in two lines towards the centre of the panel. Above them are numerous and various USOs and geophytic phytanthropes. In figure 6.12C there are two sable painted at the bottom of the panel. They are surrounded by underground metaphors: tuberous roots and ten warthogs (not shown here; see appendix A); and underwater metaphors: four large fish to their left painted over the tubers, which suggests that this is in the spirit-world (Huffman 1983: 50; Lewis-Williams 1988: 8; Walker 1996: 70). This is reinforced by two of the warthogs which are dead (painted upside-down). In figure 6.12D there are three roan antelope lying down with four elongated tubers to right. Each tuber is sprouting with fronds emerging from the top.

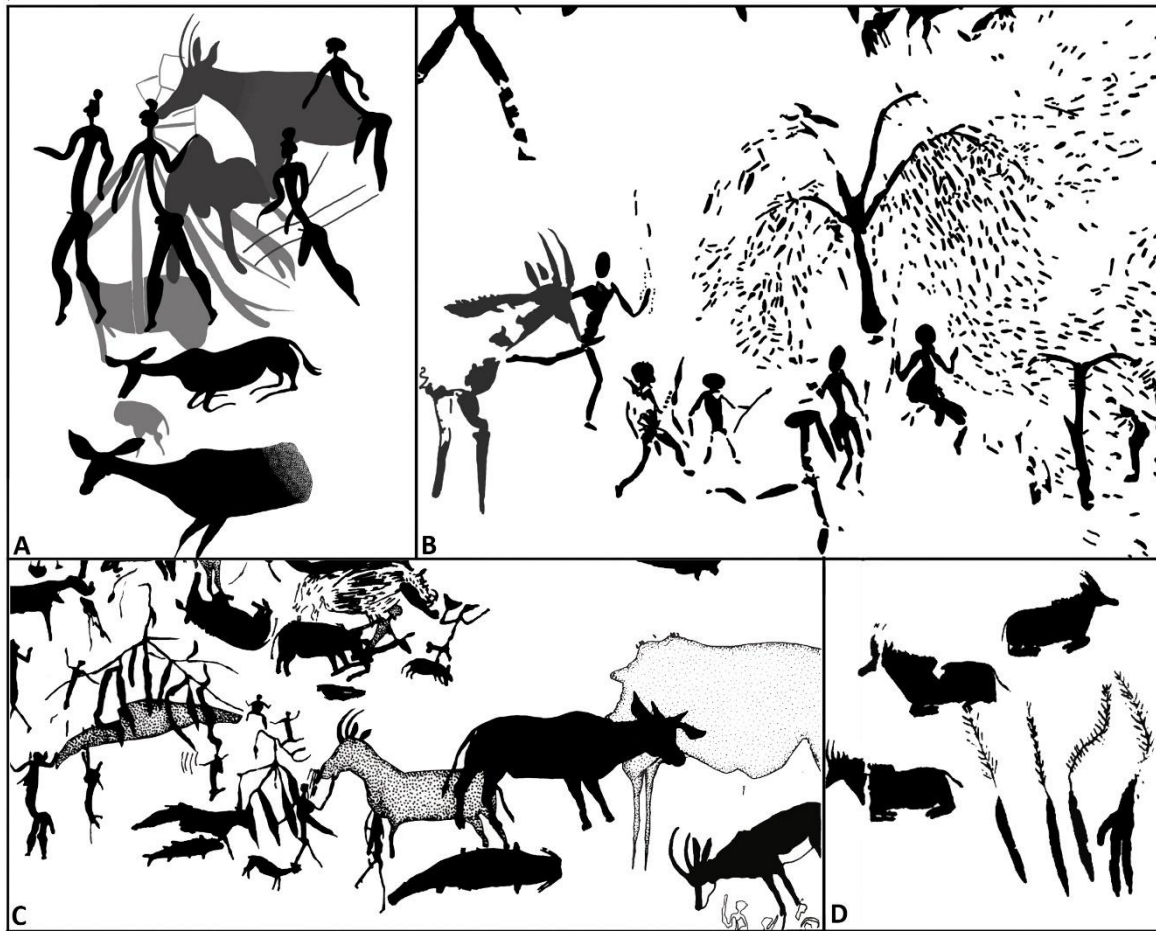


FIG. 6.12. Sable, roan, USOs, and other underground pictorial tropes described in text. **A)** Murehwa 1 (Mashonaland East. Redrawn from SARADA image. Black = Black, Dark Grey = Dark Red, Grey = Red); **B)** Tsindi (Mashonaland East. FBA-B 01664~a, © Frobenius Institute. Colours: Black = Dark Red, Dark Grey = Red); **C)** Murehwa (Mashonaland East. After Garlake 1995: 100 fig. 118. Colours: Black = Dark Red, Medium Stipple = Red, Light stipple = Ochre, White = White); **D)** Mazowe (Mashonaland East. After Garlake 1995: 8 fig. 4. Colour: not given).

A juvenile roan or sable is painted as if emerging from a formling in figure 6.13. A hunter figure has his arm on its face. Other underground metaphors include burrowing animals such as ant bears at Cairnsmore Ranch (figure 6.14) where a sable is painted on top of an ant bear in its burrow.

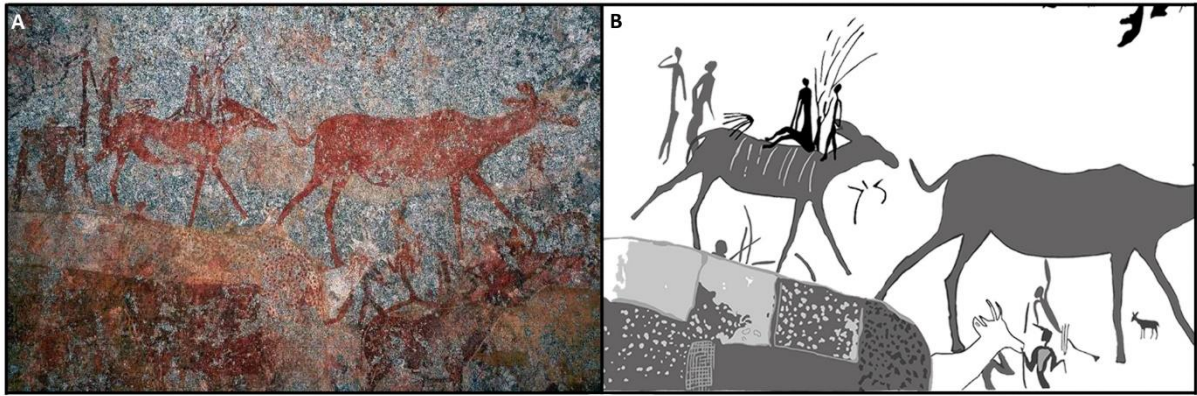


FIG. 6.13. Antelope, trees and formlings described in text (Nswatugi 1, Matabeleland South). A) Original photograph (SARADA); B) redrawing (Redrawn from Goodall 1959 plate73).



FIG. 6.14. Sable standing above an ant bear burrow (Cairnsmore Ranch, Mashonaland Central. Goodall 1959: 46 fig. 18).

Sable are depicted in scenes with overt trance tropes, specifically humans in trance. This can best be seen in Diana's Vow 1 (figure 6.15) where the therianthrope that dominates the top of the panel has the facial markings and horns of a sable (Garlake 1987b: 77).



FIG. 6.15. Sable therianthrope (Diana's Vow 1, Manicaland. Photographs supplied by S. Tatum).

A sable is painted just below and directly in between two human figures in figure 6.16. The one on the left holds out a mushroom in one hand and extends the other, touching the horn of a sable, and is bent over with blood streaming from his nose. The bunch of tubers in figure 6.12A and the sable are associated such that they appear to emerge from the nose of the sable like nasal blood.



FIG. 6.16. A man touching the horn of a sable (Ngomakurira 1, Mashonaland East. Redrawn from photographs courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA. Colour: Black = Dark Red).

The recurring association with sable and roan antelope with the spirit world (underwater, underground and emerging from formlings) and trance is likely modelled on the behaviour of these antelope, which drop onto their knees to fight, and in the case of roan collapse on the ground as if dead. They are also animals which contain great amounts of supernatural potency according to the Jul'hoānsi in neighbouring Botswana and Namibia (Marshall 1957: 235; Bieseke 1993: 95).

6.5.3 – Kudu

Kudu (*Tragelaphus strepsiceros*) are the most common animal painted in the rock art of Zimbabwe (Tucker & Baird 1983: 44; Garlake 1987b: 56; Mguni 2002: 1; Eastwood & Eastwood 2006: 108). They are antelope with large humped shoulders, elongated necks, and manes (Smithers 1983: 666). Other diagnostic features include large square ears, white stripes on their flanks, and a high degree of sexual dimorphism with males having spiral horns and a mane running from chin to chest (*ibid.*).

Paintings of kudu are ubiquitous in the rock art of Zimbabwe and have been widely studied. They are painted in association with formlings (Mguni 2002: 141, 2006a: 63; Eastwood & Eastwood 2006: 128), with women (Eastwood & Eastwood 2006), and with botanical motifs (Mguni 2002: 159; Eastwood & Eastwood 2006: 128). Among the latter, they are most often painted with bare trees (figure 6.17) and to a lesser extent USOs (figure 6.18). Like tsessebe, they are painted near or under trees, sometimes lying down on the ‘groundlines’ created by the roots of trees. For example, a kudu cow and a suckling calf stand between two bare trees and a bull lies down to their right in figure 6.17A. In figure 6.17C, we see a large kudu bull with a mane to the left of a bare tree. In figure 6.17D there is a bare tree with two seated humans painted on the backline of a kudu calf which follows behind a kudu cow. The connection between water and kudus is most clearly seen in the rain-snakes found in Zimbabwean rock art, which most often have the heads of kudu cows (discussed further in the rain-animal section below).

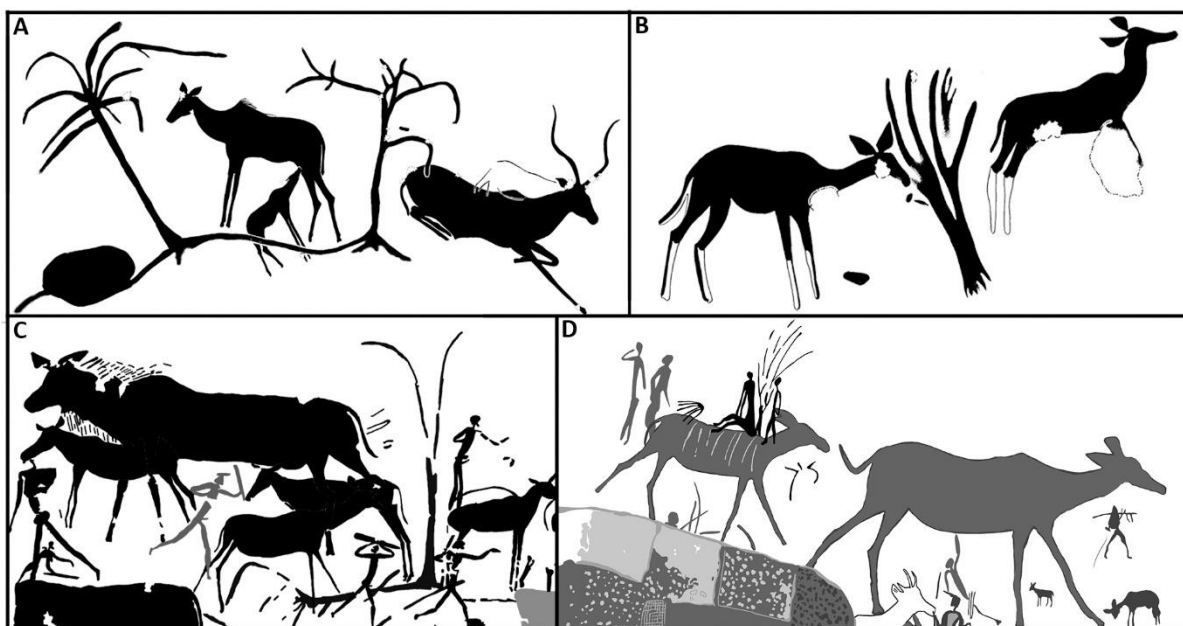


FIG. 6.17. Kudu and trees described in text. **A&B)** Amadzimba 1 (Matabeleland South. After Mguni 2009: 141 figure 2); **C)** Nanke 1 (Matabeleland South. Redrawn from image courtesy of N. Calame-Darbellay. Colours: Black = Red, Grey = Orange); **D)** Nswatugi 1, (Matabeleland South. Redrawn from Goodall 1959 plate73. Colours: Black = Dark Red, Dark Grey = Red, Grey = Light Red, Light Grey = Orange, White = White).



FIG. 6.18. Kudu bulls painted with various USOs and warthogs or bush pigs (Surtic Farm, Mashonaland Central. Redrawn from Goodall 1959 figure 27. Colours: Black = Red, Dark Grey = Orange).

6.6 – Giraffe

Giraffe (*Giraffa Camelopardalis*) are one of the most common animals painted in the rock art of Zimbabwe, especially in Matabeleland South (Walker 1996: 31; Eastwood & Eastwood 2006: 128). Giraffes are often painted at sites with formlings and arboreal motifs (Mguni 2002: 141, 159), yet there are very few examples of them in direct association with trees (although this does not preclude any cultural or symbolic connection). They are most often painted above or over formlings (Eastwood & Eastwood 2006: 128) for example at Nanke 1 (figure 6.19) where the majority of giraffe motifs are painted on the left-hand side of the panel with the tree motifs (all bare) concentrated above or to the right of them (not shown in historical copy, see Appendix A).



Fig. 6.19. Historical copy of a section of the panel of Nanke 1 (Matabeleland South) described in text. (Maria Weyersberg, FBA-D3 01532, © Frobenius Institute).

In figure 6.20 there are three giraffe that stand between two bare trees on the ‘groundline’ created by their roots. These roots extend across to the left-hand portion of series of formlings. There is a fourth giraffe, which is polychrome and superimposed over a large bovid with two dark red lines on its muzzle, which Mguni (2004: 183) argues is a rain-cow that bleeds from the nose.



FIG. 6.20. Frieze at Gulumbezhe 1 with bare trees, giraffe, formlings, various antelope and a possible rain-animal (Matabeleland South. Image courtesy of J. Hollmann. Original (top), (bottom) edited: D-Stretch_lab).

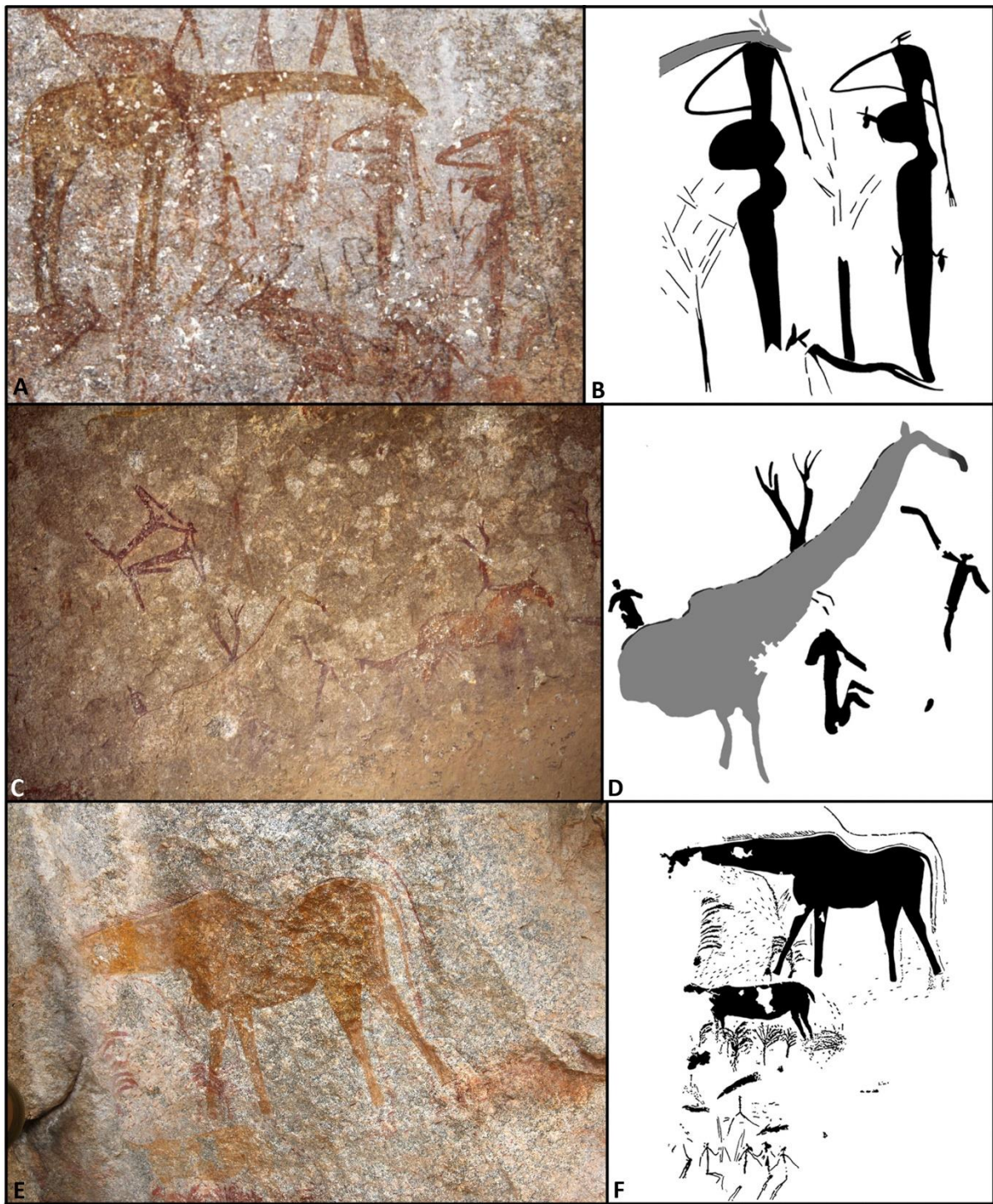


FIG. 6.21. Giraffes and arboreal motifs described in text. **A)** Isotja cave (Matabeleland South. Image courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA) **B)** Isotja cave (Matabeleland South. Redrawn from SARADA image); **C)** Bambata 1 (Matabeleland South. Image courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA); **D)** Bambata 1 (Matabeleland South. Redrawn from SARADA image); **E)** Hazelside (Matabeleland South. Image courtesy of I. Withnall); **F)** Hazelside (Matabeleland South. After Walker 1996: 28 fig. 33).

Figure 6.21 shows examples of giraffe painted close to tree motifs. In figure 6.21E & F there is one complete giraffe with either a second backline and tail (painted in red) or the backline of another giraffe; below it is an indeterminate quadruped. There are nine trees, identified here as palms, painted with them, as well as two larger trees painted below the giraffe and five smaller trees in a line below the indeterminate animal. There are three upside-down 'V' shaped lines emerging from the neck of the giraffe which lead into the lines of flecks that flow between the palm trees and the larger giraffe. In figure 6.22 there is a large rain-snake with a head similar to a carnivore with rows of sharp teeth. This rain-snake has its nose in the branches of a bare tree. To the right a giraffe extends its neck towards the two.

The connection between giraffe and rain is reflected in the ethnographic record. The Nyae Nyae Jul'hoānsi believe that giraffes contain *n!om* (potency) and possess *n!ao* (weather-changing capabilities) (Marshall 1957: 235), and that there are resemblances between clouds/cloud patterns and giraffe (Marshall 1957: 239). K"xau, a Jul'hoānsi informant, told Megan Bieselee that a giraffe is the animal that guides him to God's house, first by taking him and guiding him under water and then the "Kauha made the waters climb, and I lay my body in the direction they were flowing . . ." (Bieselee 1979: 55).



FIG. 6.22. Rain-snake, giraffe, and a tree, Gulubahwe 1 (Matabeleland South. Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA) original (left); Redrawn of the same (right).

6.7 – Birds

Birds and avian forms are relatively rare in the rock art of Zimbabwe. Various species of birds have been identified in the rock art, including swifts, swallows, francolin, ostriches, and cranes, but, as with plants, the exact genus or species is not always of importance and can detract from

attempts to classify these birds from the emic classificatory systems. Birds, especially their feathers and wings, are symbolic of flight often experienced in trance as well as the sensation of the hairs tingling or ‘growing’ (Hollmann 2002: 567). Ritual specialists would turn into birds to travel in the physical world when in trance (Bleek 1933; Lewis-Williams 1981: 71–101; Katz 1982: 100–101; Bieseke 1993: 94–98). I now discuss how flying birds in general are linked to plants in the rock art of Zimbabwe, and how swallows/swifts and red-billed queleas are linked to metaphors for rain and plants.

Avemorphs, figures with bird-like characteristics (Hollmann 2005b: 90), most notably avian therianthropes (avianthrope), best typify the connection between birds and trance sensations and states. The ‘trance buck’ found in South Africa are interpreted as a shifting spectrum of ritual practitioners in deep trance who have entered the spirit world, and other spirit world beings (Hollmann 2003: 28, 2005b). Common features are antelope heads, human bodies, nasal bleeding, and streamers leaving the body, often in forms that look like feathered wings (Pager 1971: 343; Lewis-Williams 1987: 173), as well as certain postures: kneeling, arms back, bent over forward, and heads down (Lewis-Williams 1981: 8, 84, 88–89, 100, 1987: 173; Yates *et al.* 1985: 72, 74). They are explicit pictorial tropes indicative of ritual practitioners utilising potency (Lewis-Williams 1987: 173). Similar entities can be seen in Gambarimwe 1 (figure 6.23). There are a total of ten therianthrope figures (five in dark red, two in brown, two in yellow and one in faded black) in this frieze with the features of birds mentioned above; one of which, (bottom left) has an antelope head. They have streamers emerging from their arms which are stretched back to appear like wings, they have legs that bend backwards (like birds’) and are bent over with white lines that stream from their noses, which are likely mucus (Lewis-Williams 2002: 252). Those that are painted in yellow and brown have tusks, which are another symbol of potency and transformation (Garlake 1995: 146; Blundell & Ferreira 2018: 357–358). Geoffrey Blundell & Angela Ferreira (2018: 360) argue convincingly that the combination of feathers and tusks in a single figure highlights and reinforces the “transformative capacity” of those these features. Other therianthropes in this frieze do not have the feathered wings of birds but their legs bend backwards, and they have tusks and bleed or have mucus streaming from the noses. This frieze is but a small part of a large and extremely complex panel with a staggering number of different motifs. It is dominated by a group of large, recumbent men, and 16 trees with fronds with the short leaflets of the fronds becoming flecks which seem to flow between the trees and the wings of the avianthropes. This draws attention to the similarity in the featherlike nature of fronds and the feathered wings of these

figures with the flecks flowing between them. Walker (1996: 90) notes that there is a strong correlation between birds and tree motifs; I argue that this site epitomises the connection. These avianthropes are likely not based any specific genera or emic category of birds but rather show this connection between flight, transformation of ritual specialists and the flow of what could be potency between palm-like trees and these therianthropes. This lack of species specificity is seen in the other avianthropes recorded in Zimbabwe. However, when San painters *meant* to portray species, they did so (as exemplified by swift therianthropes in South Africa (Hollmann 2003, 2005a, 2005b)).



FIG. 6.23. Avemorphs, trees, flecks, formlings, and mushrooms (Gambarimwe 1, Mashonaland East. Redrawn from image courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA. Colourised to show the solid colours of the figures painted. Background and other figures rendered in black and white at 50% opacity).

6.7.1 – Swifts and swallows

Swifts and swallows are migratory birds that move with the rain, feeding on flying insects. According to the testimony of Diä!kwain (in Lewis-Williams 2000: 25) the !Xam see them as intrinsically linked to rain and are the rain's things because they display behaviours linked to rain and water. Swallows skim the water's surface (a trans-realm interface) while flying to catch insects and other invertebrates, and only fly when there are rain clouds in the sky (LL.V.21.5698-5701, in Challis *et al.* 2013: 346). Hollmann (2005a: 24) argues conclusively that swallows are a generic term that includes swallows and swifts, as it is unlikely that the !Xam differentiated between these species. Based on the difference in morphology and ethology, the paintings that have been identified by researchers as swallows are likely swifts. Swifts have crescent, almost scimitar-shaped wings, whereas swallow wings are more angular with a distinct bend at the carpal joint (Hollmann 2005b: 90). The wing structure of paintings of the 'swallows' and avianthropes match those of swifts. Swifts display behaviours analogous to that of humans in the trance dance. They circle, clap their wings, shriek, in a process called circusing and fly, at great speed, to perch on rock shelters and cliff so that they appear to fly into and out of these rock faces (Hollmann 2005a: 21). It is because of their behaviour and their association with the rain that /Han ≠ kasso' identifies the swift-people (swift therianthropes) as rain sorcerers (Hollmann 2005a: 24–25). Several examples of paintings of swallows have been recorded by Cooke (1964) in Zimbabwe (figure 6.24).

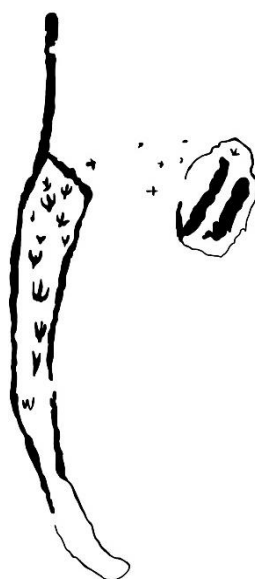


FIG. 6.24. Swallows flying into a nest (Modified from Cooke 1964 in Hubbard & Mabrey 2007 fig. 4 p 16).

In the panel at Zombepata (figure 6.25) there is a potential example of humans using plants, in this case a stick, to interact with winged forms flying out of a formling. In this panel there are numerous white arrowhead/trident shapes painted flying into and out of a large formling. The majority of these shapes show a single pair of scimitar or crescent-shaped wings.

A small proportion of these have long ovoid wings (more like those of insect wings and not bird wings) and ovoid bodies, like the abdomens of termite alates. It can be argued that at least some of these winged forms could be modelled on termite alates because of their proximity to the formling and their behaviour of flying out of the chimneys of termitaria (which formlings are modelled on). However, none of these winged forms have the two pairs of wings and distinct head and abdomen diagnostic of alates, such as those painted at Nanke 1 (figure 6.3) and Silozwane. It is because of these features that I interpret these winged forms as swifts. At the entrance of the formling is a human woman with her one arm raised to the winged forms, and the other holds a short stick.

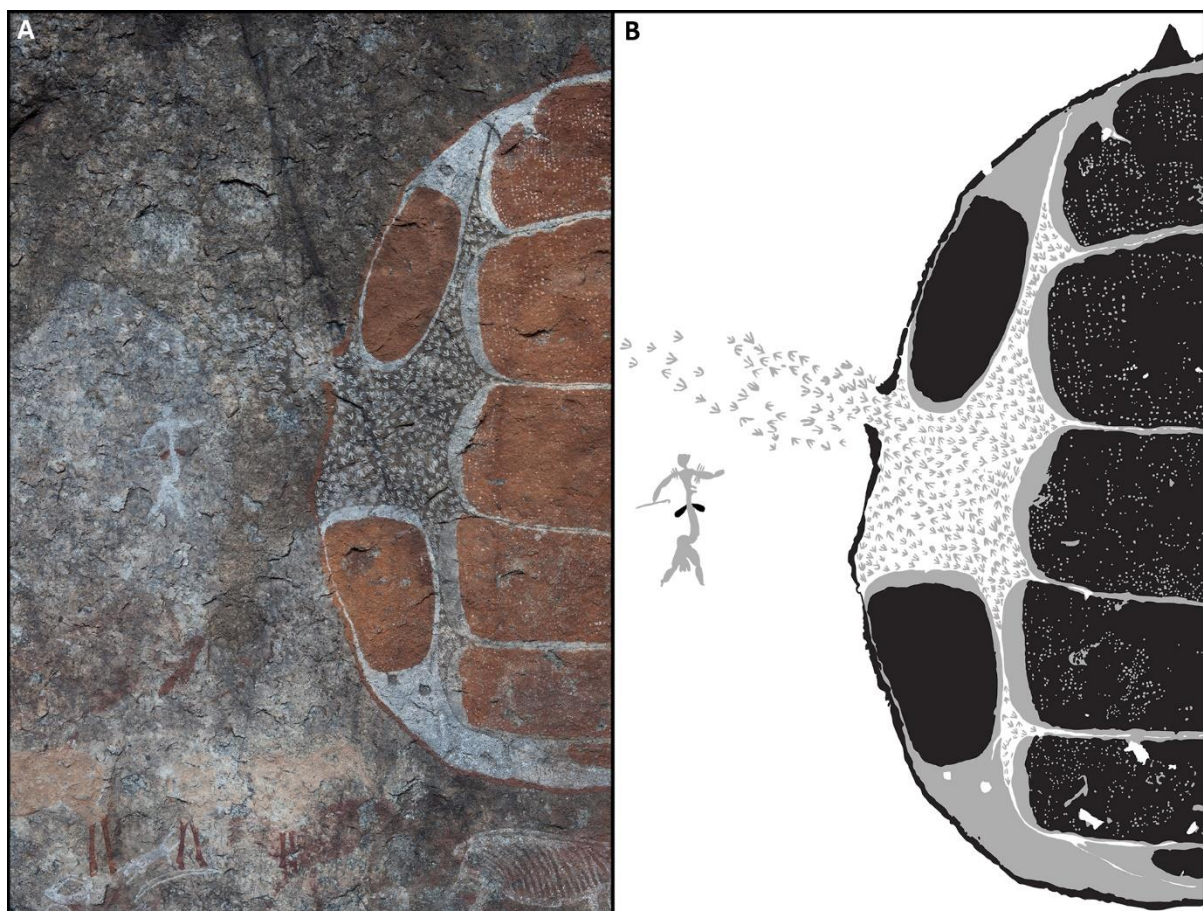


FIG. 6.25. A) Winged forms and a formling described in text (Zombepata, Mashonaland Central. Image supplied by J. Hollmann); **B)** Redrawn from A (Edited: Surrounding figures removed).

A case for African palm swifts

African palm swifts (*Cypsiurus parvus*) are gregarious birds found throughout much of sub-Saharan Africa including Zimbabwe (Mills *et al.* 2019: 75). They nest exclusively on the underside of fronds of palm trees (in Zimbabwe these are *Borassus aethiopum*, *Hyphaene petersiana*, and *Phoenix reclinata*) and because of this they are strongly associated with them. In figure 6.26 there is a large group of small arrowhead shapes painted in white over two zigzag lines, likely menstrual blood (Huffman 1983: 52), emanating from the genitals of a squatting therianthrope woman. Above them is one palm, or two painted one behind the other, and below are four palm trees, likely *P. reclinata* (see Chapter 5). These figures are unlikely to be termite alates because of their single pair of wings, and wing and body shape such as the long ‘tail’. They share many morphological characteristics of and closely match swallows/swifts depicted in Zimbabwe (e.g., figure 6.24). Some, although admittedly not all, have crescent shaped wings indicative of swifts and long streamers for tails. African palm swifts are the only species of swifts with these long tail streamers in southern Africa (Hollmann 2005b: 90). Their tail streamers are often so close together so as to appear as one, which differentiates them from the widely forked tails of some swallow species that have tail streamers. These figures are likely to be African palm swifts because they match the relative size and shape in which African palm swifts are depicted, are in the presence of palm trees, and are painted with pictorial rain tropes (menstrual blood, palms, fan charms) which align with the emic classifications and notable associations of swifts and rain.



FIG. 6.26. Lobed trees painted behind and below a distended female figure (Goromonzi, Mashonaland East. Redrawn from composite image of Garlake 1995: 88 figure 99 and Nhamo 2014: 313. Colours: Black = Red, White = White).

6.7.2 – *Red-billed queleas*

Red-billed queleas (*Quelea quelea*) are small, gregarious birds that form flocks that can comprise of 1 million or more individuals, although they roost in relatively smaller groups, up to 6000 nests per tree (McWilliam & Cheke 2004: 130; Markula *et al.* 2009: 7). They feed almost exclusively on immature grass seeds that form shortly after heavy rains and so they must migrate to follow the rain (Ward & Jones 1977: 43). These large flocks form roiling, shape-shifting clouds of that have been recorded up to 20 km long and 1 km wide in Zimbabwe (McWilliam & Cheke 2004; Robert 2015) (see figure 6.27). These flocks bear a striking resemblance to the fields of flecks found in the rock art of Zimbabwe. These fields of flecks are found most often around trees with fronds and lobed canopies (see Chapter 7).

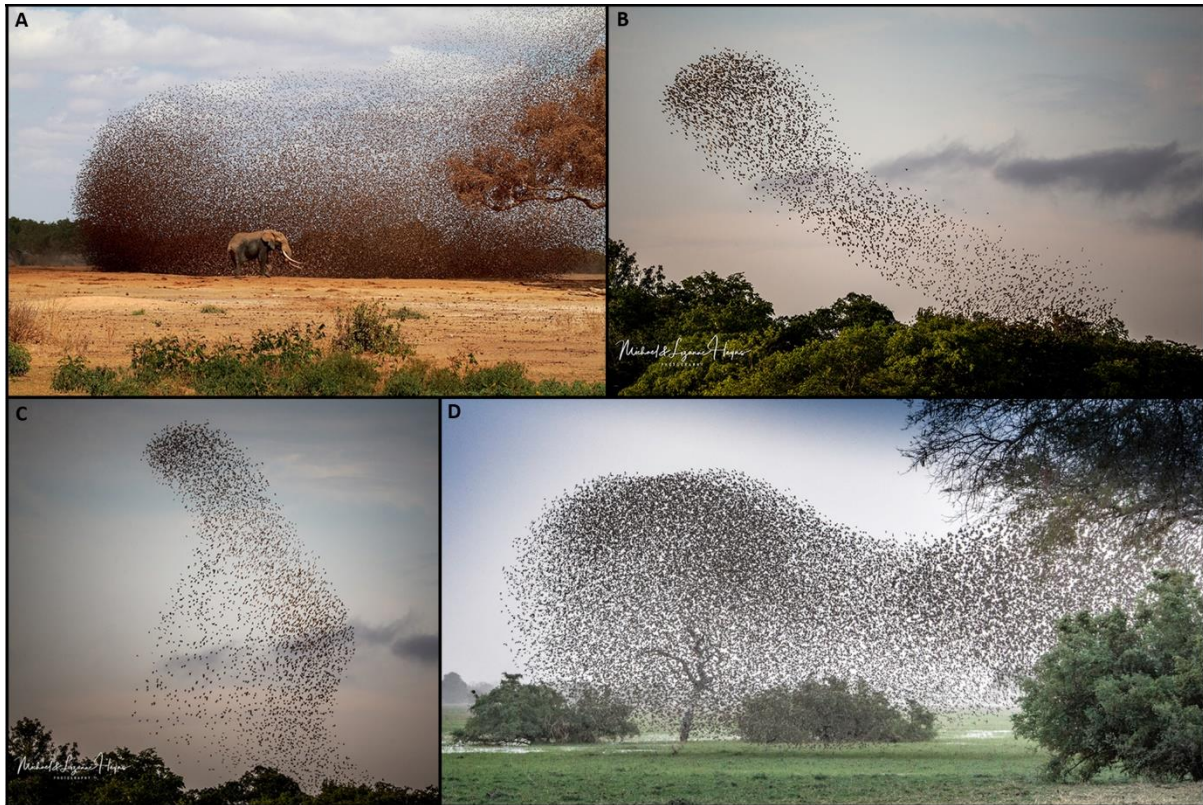


FIG. 6.27. A swirling flocks of red-billed *Q. quelea*. **A)** Queleas and elephant (Antero Topp RR); **B)** Queleas (Michael Heyns RR); **C)** Queleas (Michael Heyns RR); **D)** Queleas (Kyla Shay RR).

Red-billed queleas are not mentioned in the hunter-gatherer ethnographic material collected from the Kalahari and the Northern Cape. This might be, in part, because they are not commonly found in these regions (Mundy & Herremans 1997: 573), and because they were not seen as culturally important to the Jul'hoānsi. Their migratory behaviour does mirror that of swifts which follow the rain, and the arrival of rain is heralded by the large flocks of queleas, which would have been noted and likely been a defining characteristic, linking their behaviour with rain as is the case with other birds in San ontology (Low 2011: 298).

6.8 – Rain and Rain-animals

Another class of animals that are the rain's things are rain-animals. They are not just connected to the rain, but are the embodiment of rain. These rain-animals are often depicted as confluences of animals. Morphologically they can be split into rain-snakes and rain-cows/bulls—rain-quadrupeds when there are no diagnostic features indicating sex—with the former having long snake-like bodies, often with antelope heads, and the latter large quadruped bodies. Although

this physical distinction is notable—and from an etic Western perspective they would be seen as distinct types of creatures—the !Xam and the Maloti San place the two in the same category, as can be seen in Qing’s description of the animals in the ‘rain animal scene’ in Sehonghong (figure 6.28) (Orpen 1874: 10). Qing told Orpen:

“That animal which the men are catching is a snake (!) They are holding out charms to it, and catching it with a long reim [this refers to the Afrikaans, riem, a strong leather thong or rein, normally of oxhide] (see picture). They are all under water, and those strokes are things growing under water. They are people spoilt by the —dance, because their noses bleed”* (Orpen 1874: 10, original emphases and parentheses; comment by Challis et al. 2013: 335 added in bold).

The !Xam categorised them together, as can be seen in Diä!kwain’s illustrations of a *!khwa-kaxoro*, a water-bull which display more serpentine characteristics than bovine, although both are present (Challis et al. 2013: 348).

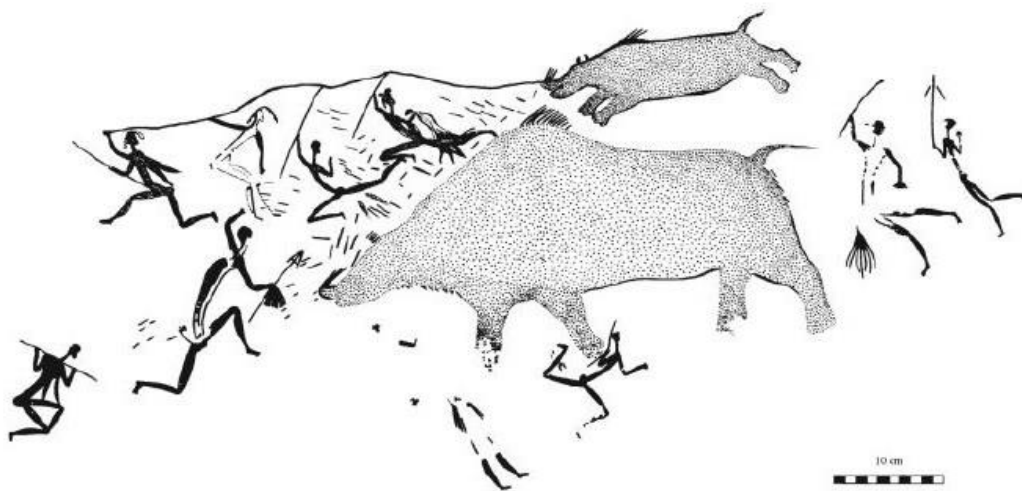


FIG. 6.28. Sehonghong redrawing Vinnicombe (RARI).

Rain-animals reside underwater in the deep pools of rivers and in waterholes (which give access to the spirit world). They are caught by ritual specialists and led to where the rain is needed (Lewis-Williams 1981: 103–116). The rain-animals were cut, so that where they were led their blood would fall as rain and wet the ground (LL.II.25.2236–2237), or they were cut into pieces and rain would fall where their flesh is thrown down (Bleek 1933b: 375–376). Ritual specialists would go into trance in order to enter the spirit world, and there they would use charms (most often aromatic plants) to pacify rain-animals and make them easier to catch

(Lewis-Williams 1977, 166; Mguni 2002: 162–163; Lewis-Williams & Pearce 2004b: 221; McGranaghan & Challis 2016: 590) and to calm them once they had been lassoed so they could be led more easily (Hollmann 2004: 163). These plant ‘charms’ are bundles of aromatic herbs called *canna* by Qing (Orpen 1874: 10) and *sã* by the !Xam (Bleek 1933).

The blood of the rain-animal is depicted as flecks, that Qing said were things growing underwater (Wilhelm Bleek in Orpen 1874: 12), but which Diä!kwain says indicate rain (Challis *et al.* 2013: 343). The animals are bled by cutting, which Challis *et al.* (2013: 348) argue can be indicated by short strokes or lines on the body of the rain-snake seen on the underside of a rain-snake at the Rain Snake Shelter, Lesotho (figure 6.29). This rain-snake is bleeding, as indicated by the flecks that surround and flow with it and is being led by the nose by ritual specialists (*ibid.*). Similar creatures are recorded in the rock art in Zimbabwe and with both rain-snake and rain-bulls/cows being found.



FIG. 6.29. Tracing of the rain snake at Rain Snake Shelter, Lesotho (Challis *et al.* 2013: 333 figure 5.1).

6.8.1 – Rain-quadrupeds (cows/bulls)

Fantastical quadrupeds in the rock art, which have been interpreted as rain-cows/bulls (Lewis-Williams & Pearce 2004b: 215; Challis *et al.* 2013: 349–350), have some elements of real animals or combinations of them, much like the rain-animals in figure 6.28. They are painted in association with trees (bare, solid, lobed, fronds, and fruit bearing) and formlings. The creatures in figures 6.30A, B, and C are all painted above or behind formlings, with tree motifs nearby. In figure 6.30A there is a large squat quadruped with no distinguishable diagnostic

facial features. It has a series of arched shapes on its backline similar in shape and style to those of the outlines of some formlings, for example those painted below this creature. Also painted below this rain-quadruped are four trees, two with solid canopies, and two with small, round fruit at the end of their branches, which are angled downwards. The rain- quadruped in figure 6.30C is painted with its front leg in front of, or between the gap in two formling cells. Behind it (to the right) are therianthropic figures. The therianthrope closest to the rain- quadruped is on one knee and has the head and jaw of the ‘crocodile-men’ therianthropes (Goodall 1959; Nhamo 2014: 4). The therianthropes might be ritual specialists, transforming with potency (indicated by their transformed state), attempting to catch this creature in the spirit world and potentially lead it out using the formlings as a portal between the worlds. Below the formling are nine tree motifs (some of the trees appear to be superimposed over one another), with bilobed canopies. These lobes are not entirely solid and have striations. Based on the other trees painted at the same site on another face of the boulder (see Appendix A) these trees have fronds. There are a small number of flecks that flow between these trees. On the other face of this boulder, there is a clear continuation, with more formlings and palm trees with dots or flecks emerging from the bottom of the formlings and continue in lines to the right-hand side towards other tree motifs. Mguni (2006a: 63) argues that the large bovid creature in figure 6.30D is a rain animal (specifically a rain-cow) and interprets the short lines around the nose and mouth as nasal blood. This rain- quadruped, like the other examples, is painted significantly larger than the other motifs and behind and above a formling. The creatures in grey in figure 6.30B are less obvious rain-animals. The ears and backlines are all that remain, but they are similar in shape and size to those of the hippopotami painted (shown in black) above them. Hippopotami spend much of their time in or around water so their connection to it is immediately apparent. The ears of the rain-animals do not exactly match those of the hippopotami and the backlines of the one on the right and above (not shown here. See Appendix A) are longer and have more undulations marking these as similar to, yet distinct from, the hippopotami. A tree with fronds and flecks flowing from it is painted on the back of the left-most backline.

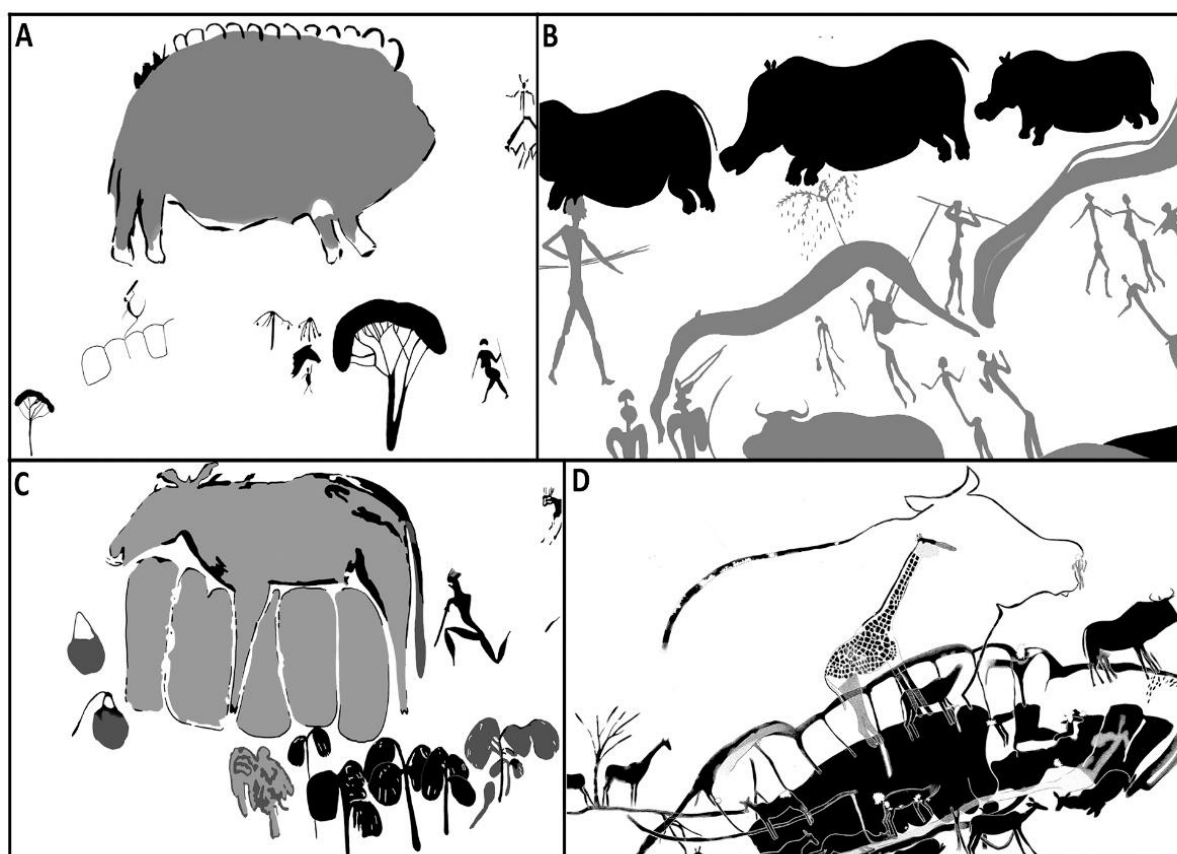


FIG. 6.30. Rain-quadrupeds described in text. **A)** Lekkerwater Farm (Manicaland. FBA-B 00711, © Frobenius Institute. Colours: Black = Red, Grey = Yellow/Orange); **B)** Somerby Farm (Mashonaland West. Redrawn from Goodall 1959 Plate 5 Colours: Black = Black, Grey = Red, Light Grey = Light Red); **C)** Lake Chivero (Mashonaland West. Redrawn from Goodall 1959: 16 plate 8. Colours: Black = Red, Dark Grey = Red, Grey = Yellow); **D)** Gulumbezhe 1 (Matabeleland South. Mguni 2004: 183 figure 2).

6.8.2 – Rain-snakes

There are creatures found in the rock art of southern Africa with long, serpentine bodies conflated with other animal features—most often they have antelope heads—(Lewis-Williams & Dowson 1990: 6, 10–11; Lewis-Williams & Pearce 2004b: 210; de Prada-Samper 2016: 96) which have been described as rain-snakes (Mallen 2005: 3, 6; Challis *et al.* 2013: 348). Similar creatures are found in the rock art of Zimbabwe. At Glen Norah Farm 1 (figure 6.31A) there is a snake with the head of a small antelope with large, rounded ears, which moves vertically away from the bridge; human figures crawl on top of the bridge, with a wide line of flecks that run parallel to it matching the undulations of its body. Flecks are found throughout the panel. These flow and swirl around most of the figures but seem to emanate from or flow towards tree motifs. Eleven of these trees have fronds or flecked canopies and are likely palms. The rain-

snakes in figures 5.31B and 5.31C are both bicephalic. The rain-snake in figure 5.31B has antelope heads and an unevenly coiled body. Around it are 27 human figures with arched backs and lolling heads. Many bleed from the nose and hold their arms behind them. None of these figures hold plant ‘charms’ or show any signs of them attempting to lead this creature. The rain-snake in figure 6.31C has two kudu heads (likely female due to the lack a mane and horns). As discussed, this panel is replete with rain metaphors relating to rain and femaleness, including a therianthropic woman with an antelope head and a distended stomach. To her left are two women with their hands on their heads, and to her right is a human figure using a plant ‘charm’ potentially to ‘tame’ an elephant. Below the rain-snake is a series of formlings with human figures painted crawling on top of and behind the cells. The rain-snake is an obvious rain metaphor *and* literal rain and the fact that it is likely a female kudu head is another metaphor linking rain and femaleness. The formlings are, as Mguni (2015: 146–147) argues, not only supersaturated with potency but are metaphorical wombs related to creation. There are four clear rain-snakes at Silozwane (figure 6.31D). The largest is at the top and also has a female kudu head. A significantly smaller human figure stands below it and stretches their arms out to touch the head at the nose and the jaw. The backline is undulated and matches the size and undulations of the formlings behind and above it. The other rain-snakes at the site have less distinct antelope heads and are below and run parallel to the top one.

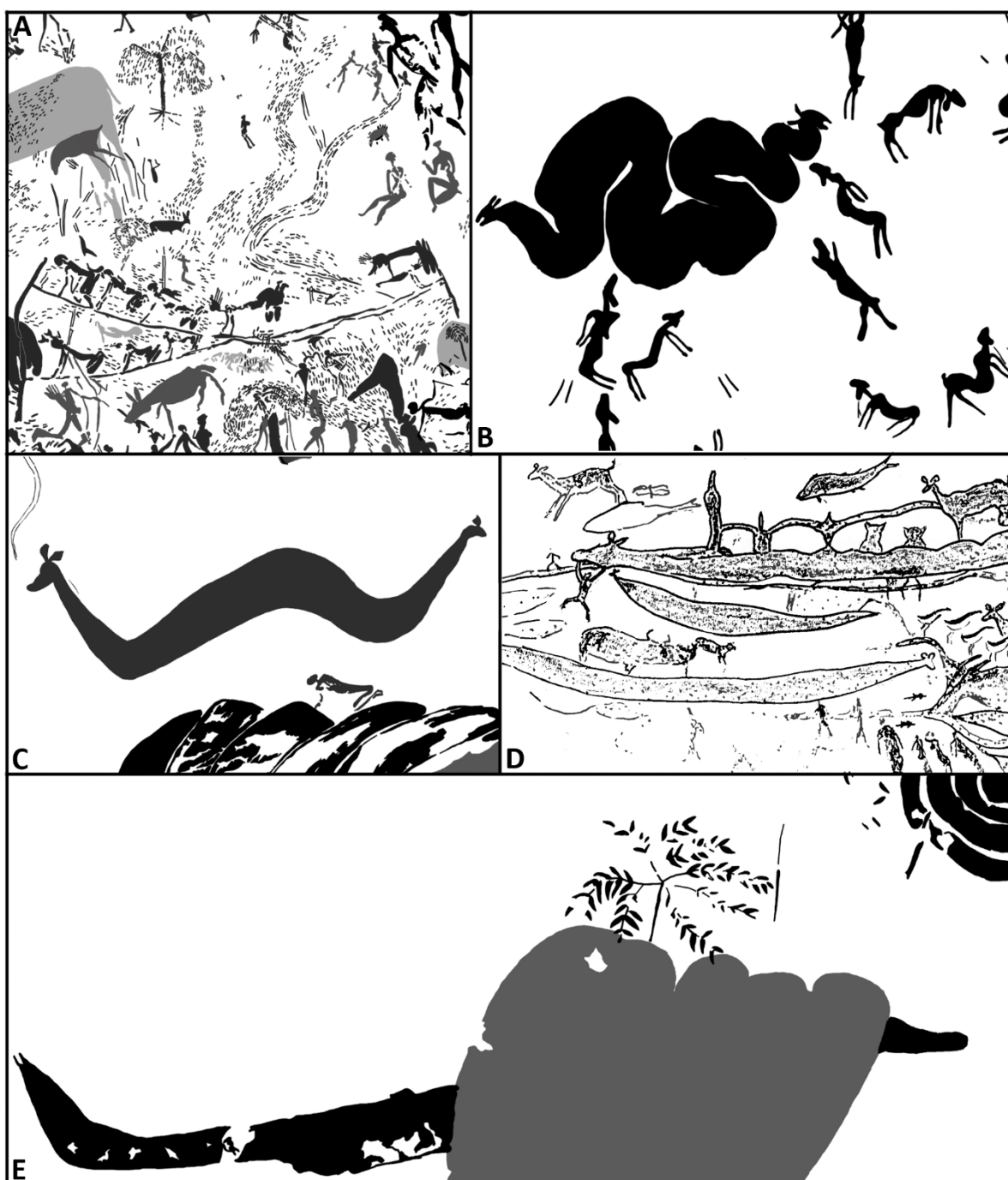


FIG. 6.31. Rain-snake described in text. **A)** Glen Norah Farm 1 (Mduzi, Mashonaland East. Redrawn from image courtesy of J. Hollmann. Colours: Black = Black, Dark Grey = Dark Red, Grey = Red, Light Grey = Yellow); **B)** Manyeni Reserve (Mashonaland East. Redrawn from, E. Mannsfeld, FBA-D3 01524, © Frobenius Institute. Colour: Black = Red); **C)** Sindjanja (Mashonaland East. Redrawn from E. Mannsfeld, FBA-D3 01629, © Frobenius Institute. Colours: Black = Dark Red, Dark Grey = Orange, Grey = Yellow); **D)** Silozwane 1 (Matabeleland South. After Walker 1996: 38 fig. 92. Colours: Medium Stipple = Red, Light Stipple = Orange); **E)** Mucheka 1 (Mashonaland East. Redrawn from image courtesy of J. Hollmann. Edited: numerous figures and motifs removed for clarity. Colours: Black = Dark Red, Dark Grey = Orange).

There are four snakes painted at Mucheka 1 (figure 6.31E), three of which are painted as spirals with no heads visible (a section of which is visible in the top right-hand corner of figure 6.31E) and the other is likely a rain-snake. Relative to other snake paintings it has a thick, squat body and tail. Unusually, the tail appears to be forked, unlike that of any real snake, although this could be due to weathering. The body is superimposed by a formling and emerges on the other side. The head has an antelope-like shape but no visible ears. A sable painted in yellow, with white facial stripes (not shown in the redrawing, see Appendix A) is superimposed over it. There are scores of sable/roan, as well as kudu and tsessebe, painted at this site, with a high concentration around this rain-snake. This sable, like the rain-snake, appears to be emerging from the formling. A tree (possibly *Z. capense* or *K. acuminata*, see Chapter 5) is painted on top of this formling, and parts of three other similarly-painted trees (which are very faded) are superimposed over the one spiral snake.

The panel at Tsindi Shelter (figure 6.32) is the most explicit demonstration of the connection between rain-snakes, flecks, and palm trees. There are 27 complete tree motifs, all with lobed canopies. Many of these canopies match the simplified bi-lobed canopies with single narrow trunks used to depict palm trees. Not all of these arboreal motifs have the exact same branching pattern as those which I have interpreted as palms. For example, in figure 6.32B, the tree at the bottom of the panel, below what is likely a tsessebe although the head is faded beyond recognition, has four pairs of opposite lobes, emerging at different heights on the trunk. The tree motif at the left-hand side of the panel (figure 6.32D) has fronds instead of lobes. The panel is covered with flecks that appear to flow and have direction. They swirl between these trees (figure 6.32A and figure 6.32F) and emerge from them as lines forming the body of a snake with the head of a large oval-eared herbivore (figure 6.32E). This parallels the paintings of rain-snakes painted in Zimbabwe and across southern Africa and can therefore be interpreted as such with a high degree of certainty, but is unique in that it is formed entirely of flecks.

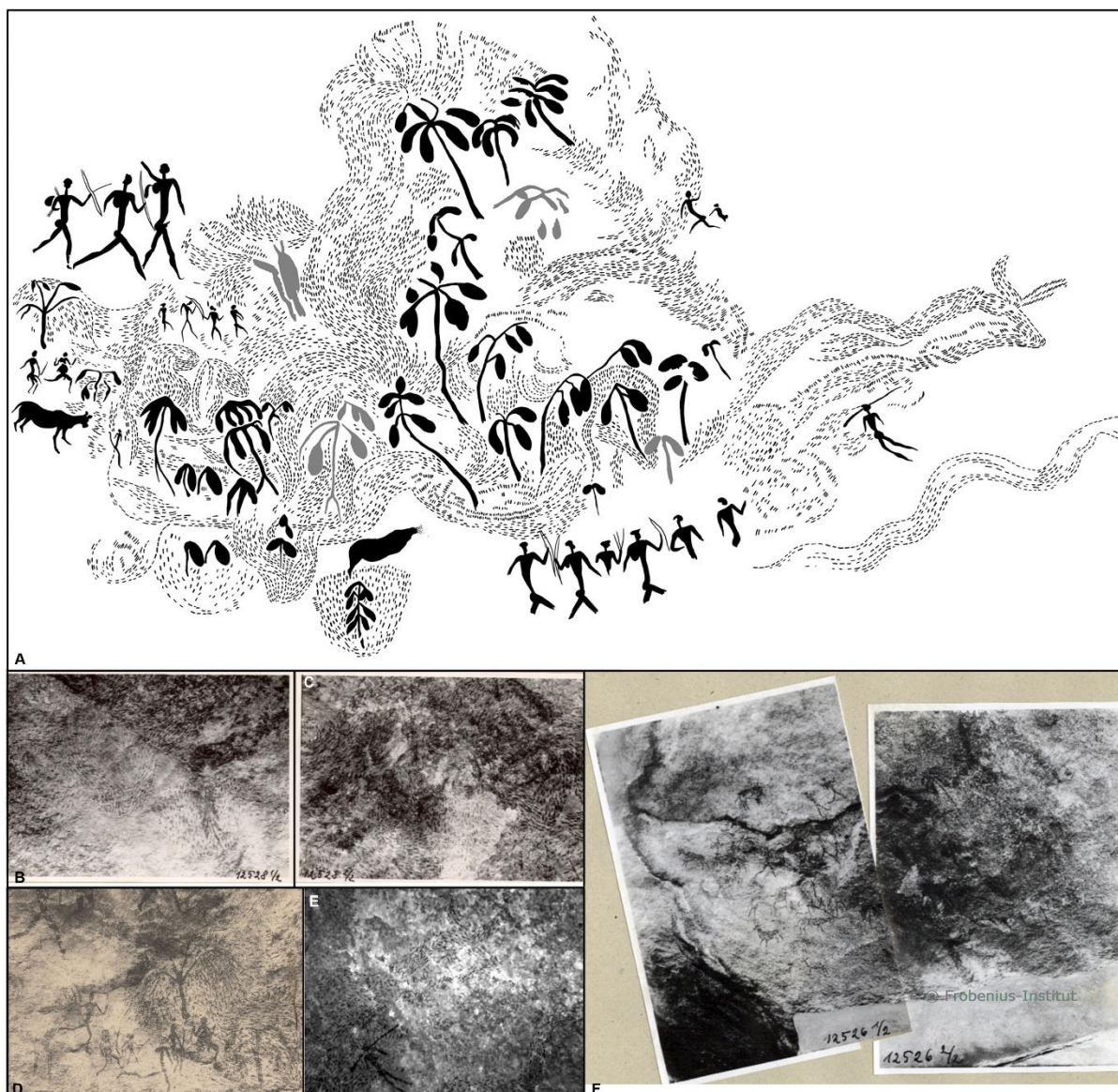


FIG. 6.32. Rain-snake comprised of flecks (Tsindi, Mashonaland East. **A**) Redrawing of entire panel from a historical copy (Redrawn from J. Lutz, FBA-D3 01519, © Frobenius Institute. Colours: Black = Dark Red, Grey = Ochre); **B, C, & F**) Photograph (FoA 09~Kat014-388, © Frobenius Institute); **D**) Photograph (FBA-B 01664~a, © Frobenius Institute); **E**) Photograph (Bahn 2010: 79 fig. 45).

6.9 – Flecks and dots

Flecks and dots are small marks of pigment painted in great numbers in Zimbabwean hunter-gatherer rock art. Mguni (2002, 2004, 2006b), rightly makes a distinction between flecks and dots both in their shape and context. He defines dots or microdots as small, uniform, round dots of pigment painted in an ordered pattern within or around formlings (Mguni 2002: 15, 2004,

2006b: 595). He interprets dots (only those associated with formlings) as termites; the dots painted inside a formling are worker termites, eggs, or nymphs and those outside but nearby are alates (Mguni 2006b: 59). These white dots could be potency, as depicted in other contexts in the rock art of southern Africa (Garlake 1990: 24, 26; Lewis-Williams et al. 2000: 123), or as Walker (1996: 74) posits, phosphenes and entoptics, or more likely both (Dowson 1989: 86).

Flecks are short strokes or dashes of pigment that are generally oval shaped and of irregular size. They are painted in five contexts in Zimbabwe: flowing around trees, with formlings, as blood, as rain/water, and as rain-snakes. These contexts are not mutually exclusive and overlap more often than not.

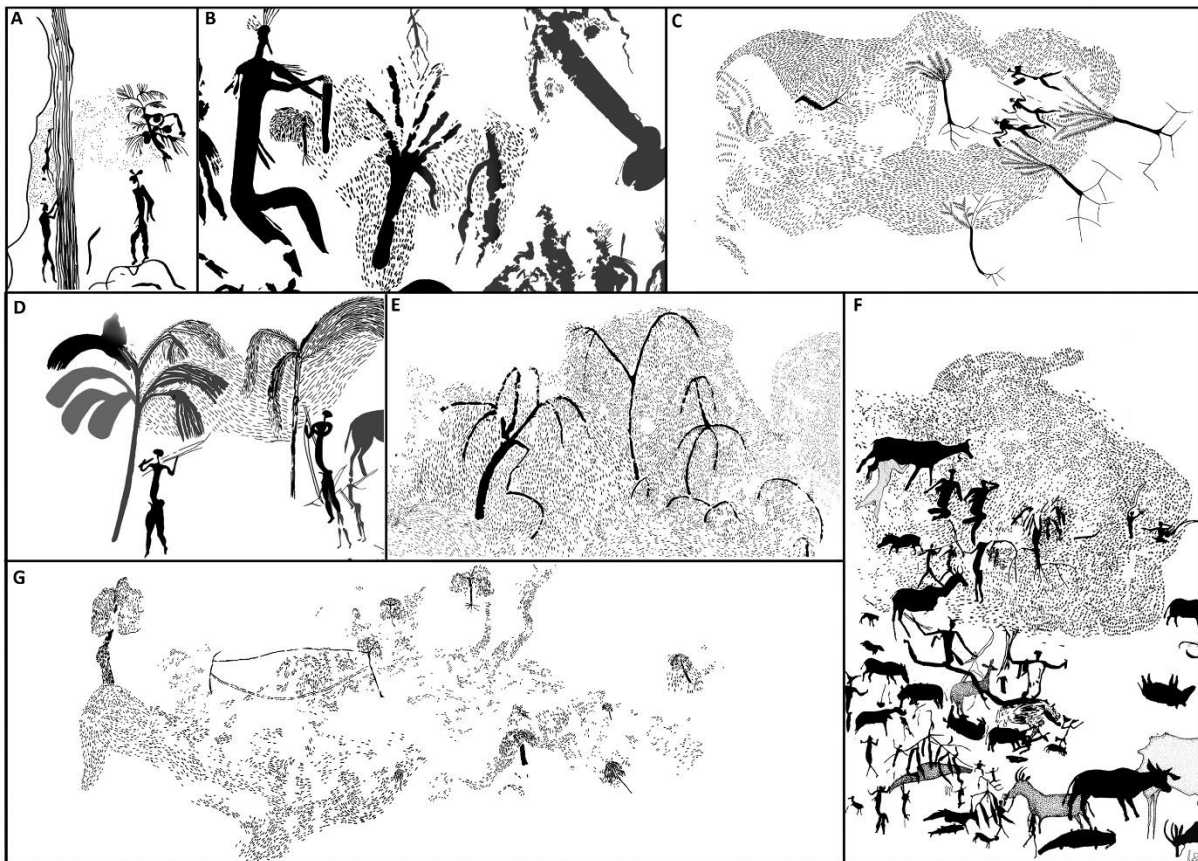


FIG. 6.33. Flecks and trees described in text. **A)** Mimosa 2 (Harare. Redrawn from Goodall 1959 plate 29. Colour: Black = Dark Red); **B)** Domboshawa 2 (Mashonaland East. Redrawn from RARI image. Colours: Black = Dark Red, Dark Grey = Red, Light grey = Faded red); **C)** Beta (Mashonaland East. Redrawn from Goodall 1959 plate 93. Colour: Black = Red); **D)** Ngomakurira 1 (Mashonaland East. Redrawn from Goodall 1959: plate 40. Colours: Black = Black, Dark Grey = Dark Red, Light Grey = Light Red); **E)** Gambarimwe 1 (Mashonaland East. Redrawn from image courtesy of J. Hollmann. Colour: Black = Dark Red); **F)** Murehwa (Mashonaland East. Modified from Garlake 1995: 100 fig. 118. Colours: Black = Dark Red, Medium Stipple = Red, Light stipple = Ochre, White = White); **G)** Glen Norah Farm 1, other figures removed (Mashonaland East. Redrawn from image courtesy of J. Hollmann. Colour: Black = Dark Red).

Trees, specifically trees with lobes and/or fronds often have fields of flecks painted around them, often in patterns that are suggestive of movement (Garlake 1990: 22; Walker 1996: 34; Nhamo 2014: 286). Because of the repeated association between flecks and trees, Garlake (1995: 105) interprets them as a form of potency specific to plants and trees that flows between them, although this does not align with most of the ethnographic material concerning supernatural potency in which it is described as undifferentiated (Mguni 2002: 51; *cf.* Low 2011). As can be seen in figure 6.23 and figure 6.33, these flecks are of a similar size and shape to the frond leaflets. In some cases, these flecks cover a large portion of a panel and surround all the figures in a relatively more structured way. More commonly, they are painted as if swirling or moving, although the direction is not clear. In figure 6.33B short flecks, closer to dots, move between the canopy of a palm tree with fronds and six large round shapes in the fronds, and a formling. These flecks are superimposed over a series of lines that run vertically across the panel. These lines pass between three formlings (not shown in redrawing, see Appendix A), two to the left and one below to the right. Two human figures are climbing these lines; one upwards, the other downwards. It is unclear whether these flecks are flowing towards or away from the tree. In figure 6.33C there is a cloud of flecks that surrounds a bare tree (centre) and flows between a human figure to the left holding a long cylindrical object. Under this human is a small, squat tree with fronds. This is unique, as it is the only example that I have recorded of a bare tree with flecks. The flow of flecks is evident, yet they often do not form any distinct shape, as can be seen in figure 6.33G & H.

I have recorded six examples of flecked clouds forming discernible shapes, five of which are elongated and serpentine (figure 6.34). These snake-like forms all flow between trees with fronds and/or lobes for canopies, which (with the exception of figure 6.34C) I interpret as palm trees. The snake-like form of the flecks is less obvious in figure 6.34C; the flecks form a thin undulating line that seems to flow from or to the formling on the left-hand side. This line of flecks is painted above a multi-branching tree with fronds and flecks for a canopy. Some of the flecks from the tree seem to join the stream of flecks above it. It continues to the right-hand side of the panel and tapers off underneath the undulating backline of another, now faded, animal.



FIG. 6.34. Flecks forming snake-like patterns described in text. **A)** Chiremba (Harare. Redrawn from Goodall 1959 plate 38. Black = Red); **B)** Glen Norah Farm 1 (Mashonaland East. Redrawn from image courtesy of J. Hollmann. Colours: Black = Black, Dark Grey = Dark Red, Grey = Red, Light Grey = Yellow); **C)** Manemba 1 (Mashonaland East. Redrawn from image courtesy of J. Hollmann. Colours: Black = Orange, Grey = Dark Red); **D)** Southern Zimbabwe (Redrawn from Woodhouse 1980: 35 fig. 5.18. Colours: Greyscale); **E)** Tsindi (Mashonaland East. Redrawn from J. Lutz, FBA-D3 01519, © Frobenius Institute. Colours: Black = Dark Red, Grey = Ochre).

As we have seen, Qing described the flecks around the rain-animals at Sehonghong (Lesotho) as things that are growing underwater (Wilhelm Bleek in Orpen 1874: 12). When shown copies of these, Diä!kwain said that these flecks indicated rain. Flecks, when depicted flowing from an animal, especially one that is being hunted, are interpreted as animal blood and that of rain-animals (Lewis-Williams 1980: 469; Woodhouse 1992: 23; Challis *et al.* 2013: 348). Blood, in the form of flecks, is often depicted coming from the wounds of elephants (Garlake 1990: 23) and in one case from giraffe (figure 6.35), both of which are linked to rain and weather in San cosmology (Marshall 1957: 235; Vinnicombe 1972: 201; Eastwood & Eastwood 2006: 99, 112, 115).



FIG. 6.35A. Giraffe, trees, and flecks (Hazelside, Matobo, Matabeleland South. Image courtesy of I. Withnall).



FIG. 6.35B. The same image as 5.35A, edited with DStretch_(yrd).

In figure 6.36 there is an area of flecks bordered by a solid line, giving it the appearance of a pool of water. Two large, bare trees and a large man that is bent over emerge from this pool of flecks.



FIG. 6.36. A) A large man and two bare trees in a pool of flecks (Nanke 1, Matabeleland South. Image, SARADA); **B)** Same as A, edited with D-Stretch_ac_lre).

Flecks can also be depictions of animals associated with water, and are tropes for being underwater in the spirit world and the weightlessness that one experiences in trance (Walker

1996: 70). This can be seen in figure 6.37, where a field of flecks is surrounded by some container or enclosure. Inside are numerous flecks and at least nine small fish (five in the centre and four below them near the bottom). These fish are only slightly larger than the flecks and their bodies are the same shape as the flecks (Challis *et al.* 2013: 343). The enclosure has a bottle-neck on the right-hand side of the panel reminiscent of a fish-trap. Inside this enclosure, directly above the five fish in the centre, is a man in a posture suggesting swimming, reinforcing the underwater theme.



FIG. 6.37. Amadzimba 1 (Matabeleland South. Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA).

Mguni (2006b: 595) argues that the flecks directly associated with formlings, especially flowing into or out of them, are likely termite alates. However, I argue that the trident or arrowhead shapes that move into or out of formlings (e.g., Zombepata figure 6.25) are far more likely to be birds. Flecks, in this context, would be the third manner in which they are depicted. These flecks can be seen in figure 6.38, flowing out of the entrance of a formling behind a tsessebe stepping out of the same entrance. White flecks are painted inside a formling at Zombepata (figure 6.39). There are two fan-palm trees painted above, and two crenelations. The flecks enter or exit the formling near the rightmost crenelation on the right-hand side.



FIG. 6.38. Fleck, tsessebe, and a formling (Gulumbezhe 1a, Matabeleland South. After Mguni 2002: 30 fig. 4. Colour: Black = Red).

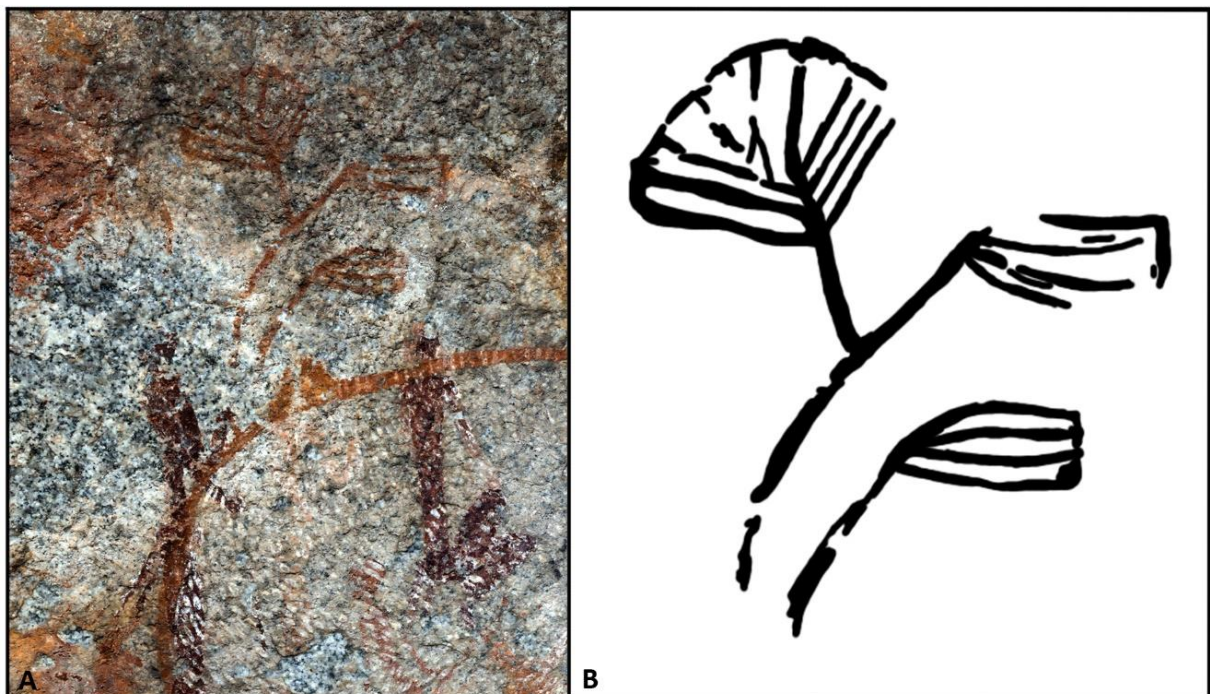


FIG. 6.39. Palms and flecks at Zombepata. **A)** White flecks inside a formling with two fan-palm trees (Zombepata, Mashonaland Central. Image courtesy of J. Hollmann); **B)** fan palm motifs isolated from redrawn from A.

Given their repeated association with rain, water themes and metaphors (formlings, termite alates, swifts, fish, rain-snakes, palm trees, blood of giraffe, and rain-animals, etc.), and that these are for the San manifestations of rain/water, then flecks are highly likely to be, but not exclusively, graphic representations of rain or water.

6.10 – Humans

6.10.1 – Women

Women and female therianthropes are repeatedly painted with motifs relating to being underground: USOs, formlings, tsessebe, warthogs, roan, and sable; and to water and being underwater: fish, rain-snakes, elephants, snakes, swifts, and alates. In figures 6.40A & B, women are painted processing tuberous roots using grindstones. In figures 6.40C & E, women are painted dancing around or in close proximity to USOs.

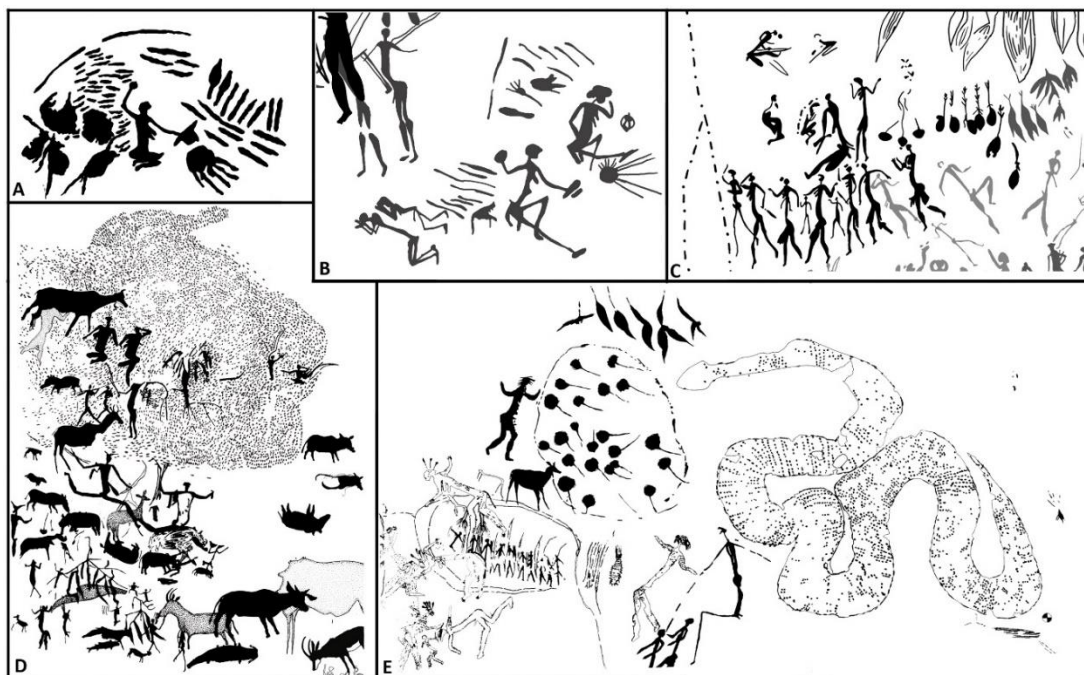


FIG. 6.40. Women and USOs. **A)** Mucheka 1 (Mashonaland East. From Garlake 1995: 53 fig. 52. Colour: Black = Dark Red); **B)** Ngomakurira 1 (Mashonaland East. Redrawn from Goodall 1959 plate 40. Colours: Black = Black, Dark Grey = Dark Red); **C)** Thetford (Mashonaland Central. Redrawn from image courtesy of J. Hollmann. Colours: Black = Black, Dark Grey = Dark Red, Grey = Orange); **D)** Murehwa (Mashonaland East. After Garlake 1995: 100 fig. 118. Black = Dark Red, Medium Stipple = Red, Light stipple = Ochre); **E)** Madzimudzangara (Mashonaland East. After Garlake 1995: 8 fig. 3. Colours: Black = Orange, Stipples = Yellow. Snake colours inverted with body orange and black dots representing white).

There is a procession of dancing women in figure 6.40C. They are surrounded by USOs, warthogs, tsessebe, and sable (figure 6.8 for full panel). Above them are two human figures kneeling around another who is curled up (painted within a slight depression in the rockface) suggesting that the two are healing the other. The women, two of whom are holding oval plant ‘charms’, are dancing into a crack in the rockface (i.e., the spirit world). In figure 6.40E the woman at the top of the panel dances with her arms spread to either side around an encircled group of corms or bulbs (see Chapter 5). Below women are painted in dancing postures, bent over and arms to the sides. They are covered in white dots (redrawn in black for clarity) as is the large snake on the right. Ethnographically there is a repeated connection made between women and plants, specifically USOs, and trance (e.g., Lee 1993: 121; Shostak 2000: 269; Mitchell & Hudson 2004: 42–43). Texae *ǀ*oma, a Jul’hoān female ritual specialist from Namibia, informed Keeney (2003: 114) that female healers “get [their] magic from the plant roots. That is why [they] stand in [their] dances like roots in the ground”. This was corroborated by two other Jul’hoān women, Tlixgo Gcao and Nisa, who said they initially consumed certain root to help them enter trance, or more specifically to help replicate the somatic sensations of trance (Keeney 2003: 114–115).

The connection and repeated association between women and plants, specifically USOs, and underground and underwater metaphors, demonstrates an emically intrinsic link between them. Although both the sky and underground/water are the spirit-world, there is a distinction made between the two, with women having a stronger connection to the latter. Mguni (2015: 146–147) argues that formlings are metaphorical wombs, because they are sources of large amounts of potency, and are the source of animals and people in many San creation narratives.

6.10.2 – Men

Men are overrepresented in San rock art (Lewis-Williams 1983: 19) and are associated with all categories of botanical motifs. They are strongly associated with using trees as a means of extracorporeal travel, via bare trees. All six examples of humans climbing trees are men with hunting equipment. In figure 6.41 there are three examples of men painted juxtaposed with trees holding hafted objects; the trees have canopies comprised of flecks or fronds. In figure 6.41A the tree has a flecked canopy and there is a man holding an object which appears to be a hafted cutting tool. The trunk of the tree is tapered below where this object is, giving the appearance of a notch or section having been cut out of the tree. Large sections of Glen Norah

Farm 3 have flaked off, but a line of flecks can be seen that starts at the centre-left of the panel of figure 6.41B & C which then re-emerges after a flaked section to the left of the canopy of the tree. In figures 6.41D, E, & F there is an undulating line of flecks flowing over nine trees with combined lobed, fronds, and flecked canopies (likely palms) and a thinner line flowing between the three trees on the left which joins the larger line. There is a male human figure holding an adze-like object (figure 6.41F). Directly below this object there is a gap in trunk of the tree. Figures 6.41G & H again show a male human figure holding a hafted cutting implement to a tree, which is likely modelled on a palm tree. There is a notch in the trunk below the implement. These trees all have the characteristics of palms (see Chapter 5) and this manner of cutting palm trees at trunk is used to tap the sap from palm trees across much of Africa (Meredith 1948; Cunningham 1990; van Wyk & Gericke 2000: 106; Shava 2005: 86; Sola *et al.* 2006; see Chapter 4). Flecks are present at all tree sites and form serpentine shapes in two of the sites. I argue that these show the tapping of palm trees for their sugar-rich sap.

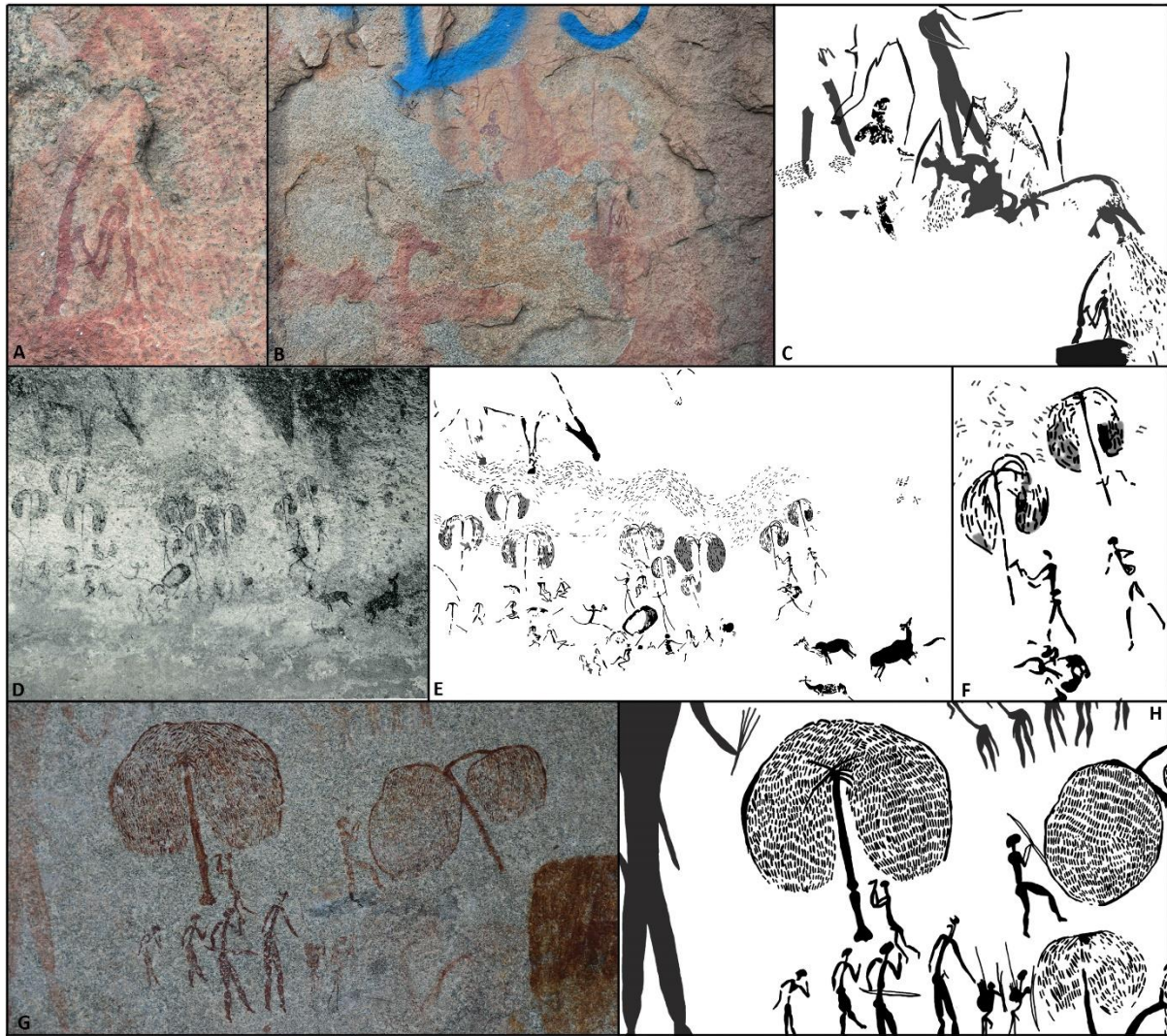


FIG. 6.41. Three examples of human figures cutting into trees described in text. **A&B)** Glen Norah Farm 3 (Mashonaland East. Image courtesy of J. Hollmann); **C)** Redrawing of B; **D)** Southern Zimbabwe (Woodhouse 1980: 35); **E)** redrawing from D; **F)** close-up of male figure with hafted implement and a tree (from E); **G)** Bushman Point 1 (Mashonaland West. Image courtesy of N. Calame-Darbellay); **H)** Same as G (Redrawn from Goodall 1959 plate 41).

The possible or probable connections deriving from an analysis of motifs that are associated with botanical images demonstrates that the study of any of these in isolation can yield only a shallow understanding of San cosmology. This is because plants are not separate or discrete subjects, but are an inextricable part of the web. They are often used as a means to mediate the relationships between human, animal, and supernatural peoples.

CHAPTER 7 – QUANTITATIVE DATA

Paintings of botanical motifs are recorded in seven of Zimbabwe's ten provinces, roughly corresponding with the granite outcrops on which most of the rock art is painted (Garlake 1987: 3, 1995: 11–13) (see figure 7.1). Using archival material and published material, I recorded and mapped 93 sites with botanical motifs. I compiled 472 images to use as my reference material, primarily photographs, in conjunction with verified redrawings and historical copies of the same sites. This provides a range of sources to use in the cataloguing and interpretation of these motifs. Where possible, recordings of the entire site, as well as of individual motifs, were obtained to provide both context and detail for interpretation. These are in Appendix A. The totals and figures in this dissertation and the statistics derived from them are based on available archival material.

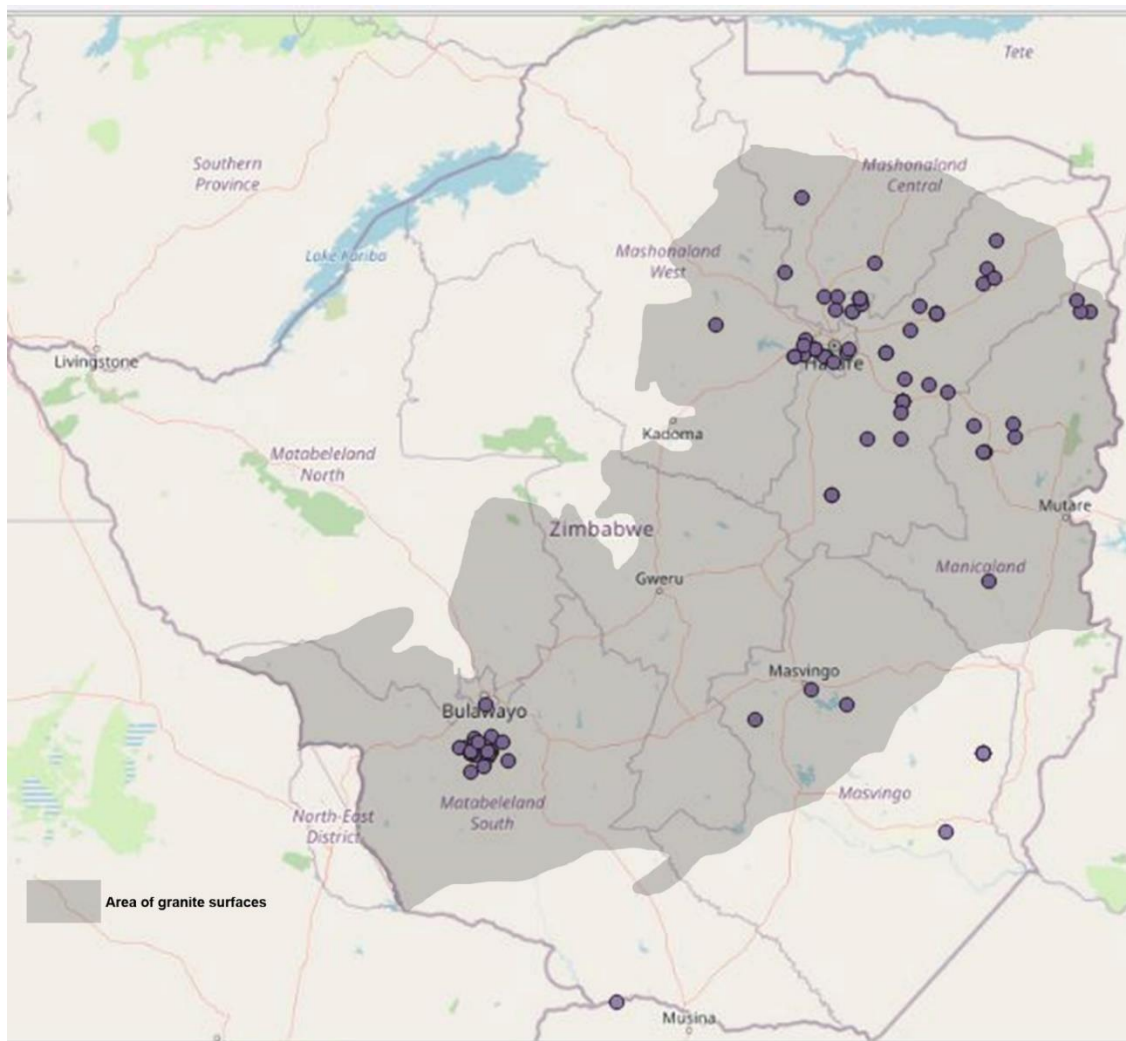


FIG. 7.1. A map of Zimbabwe, showing sites with botanical motifs and the extent of granite outcrops with surfaces suitable for painting (Map by author. Granite areas from Garlake 1995: 6 fig. 1).

7.1 – Distribution of botanical motifs

Botanical motifs totalling 253 individual motifs are recorded at 93 sites distributed across seven of the ten provinces in Zimbabwe (see figures 7.2 & 7.3) with 34% of sites (31 of 92) having been recorded in Mashonaland East and 26% in Matabeleland South (24 of 92).

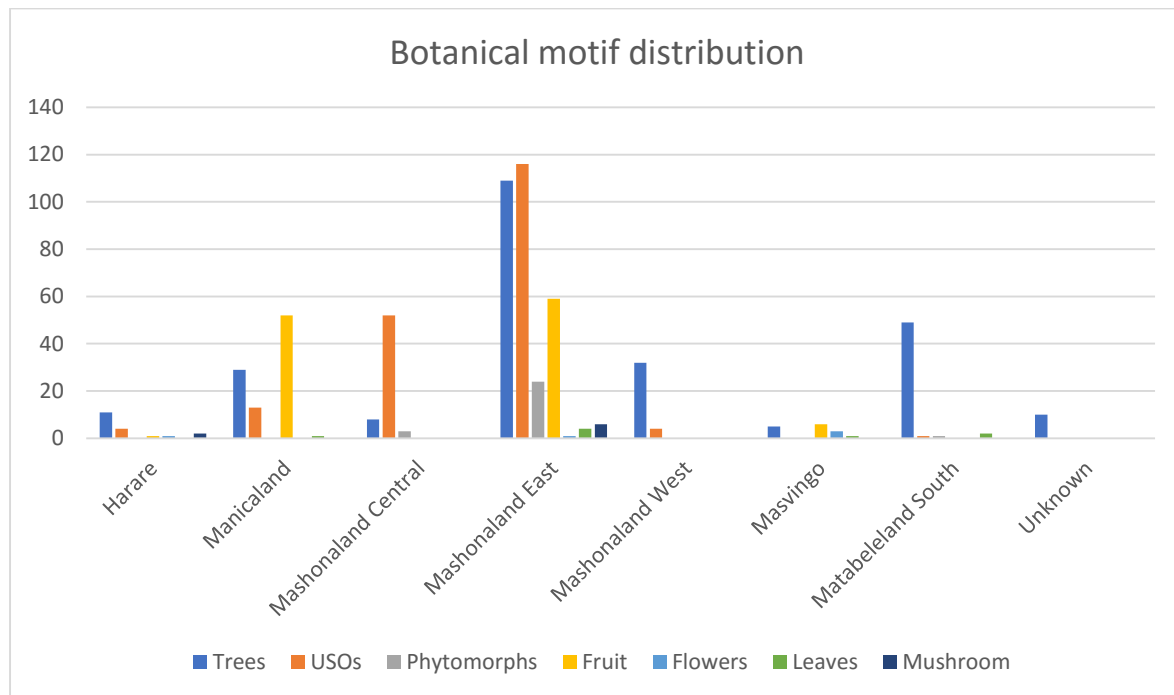


FIG. 7.2. Geographic distribution of various botanical motifs by province. Tree motifs are the most frequent overall but this varies considerably between each province.

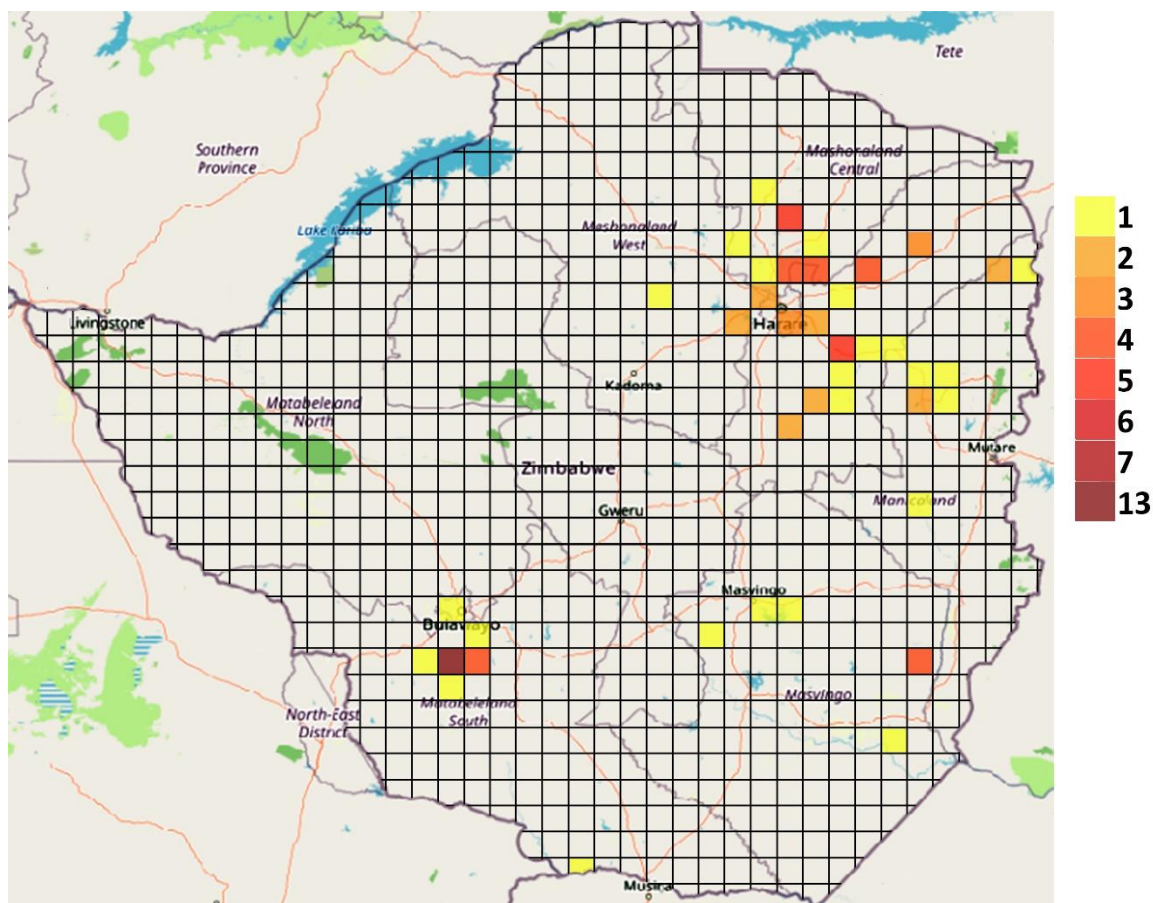


FIG. 7.3. Distribution of sites with botanical motifs (grid square spacing: 0.2 degrees).

7.1.1 – Distribution of trees and arboreal motifs

Tree and arboreal motifs are the most common botanical motifs. They occur at 74% (68 of 92) of sites with botanical motifs and comprise 41% (253 of 613) of individual motifs. They are the most common botanical motif category found in Harare, Mashonaland West, Masvingo, and Matabeleland South provinces. Tree motifs are most commonly found in Mashonaland East with 109 individual trees from 31 sites.

The most numerous type of tree motifs have lobed canopies, followed by those with fronds (see figures 7.4, 7.5, & 7.6). I argue that these two canopy types are, in most cases, likely different methods of depicting palm trees (see Chapter 5 section 5.2.1). When combined, these two canopy types make up 59% (149 of 253) of all tree motifs and 24% (149 of 613) of all botanical motifs in the study. This trend is not uniform, however; there is regional variation in tree canopy types. In Manicaland, Masvingo, and Matabeleland South, bare trees are the most numerous both in terms of sites and individual motifs. Due to the higher number of sites and

tree motifs in Mashonaland East compared to other provinces, the proportions of tree motifs across the country are skewed in favour of lobed and frond canopies.

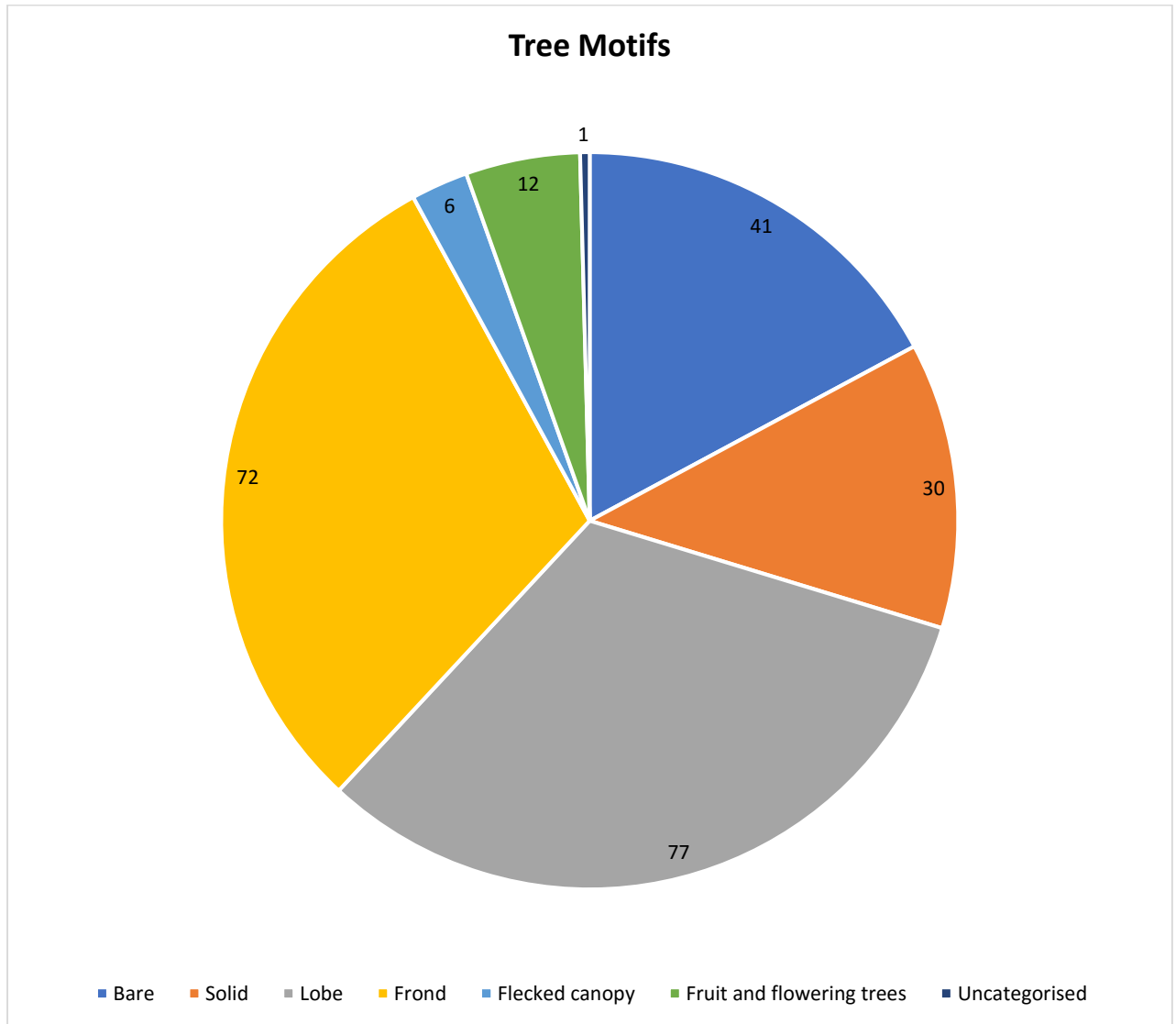


FIG. 7.4. Number of individual motifs of each tree type. Trees with lobed canopies are the most numerous followed closely by those with fronds. Flecked canopies are the least numerous of the categorizable tree types.

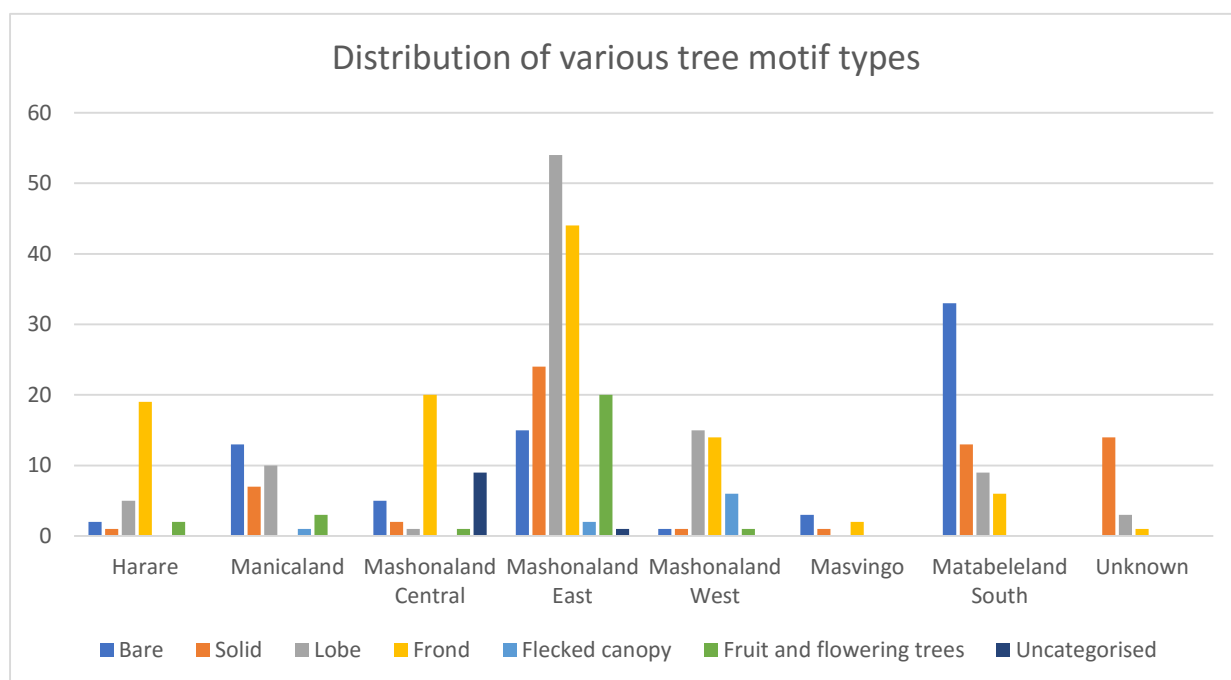


FIG. 7.5. Geographic distribution of tree motifs by province.

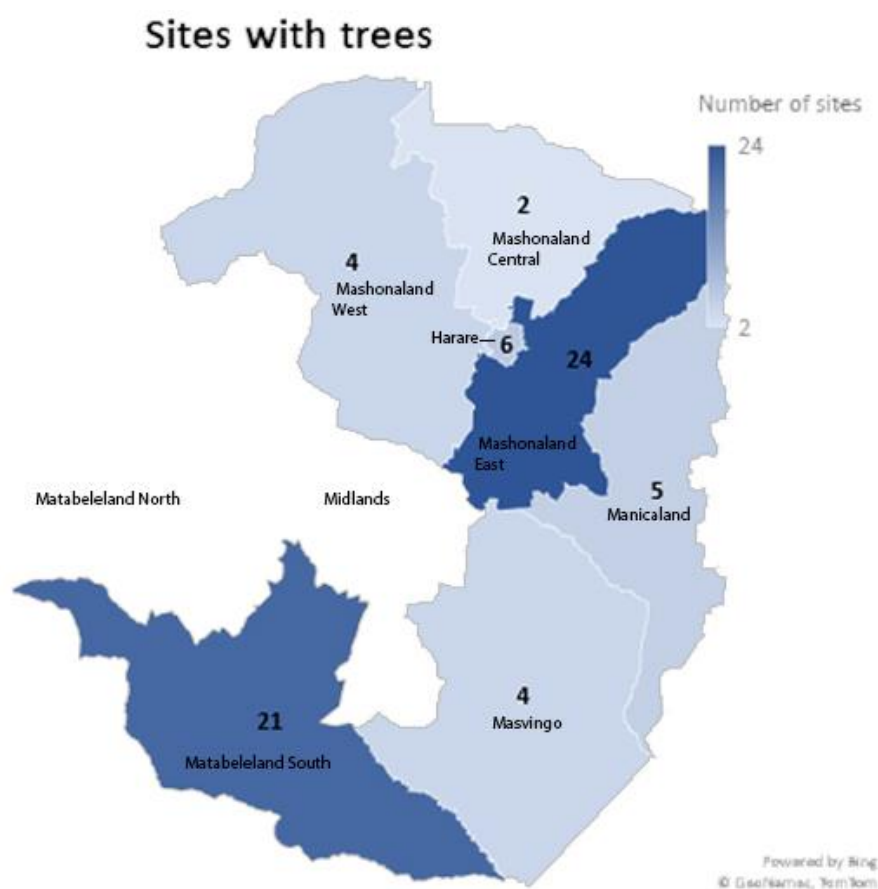


FIG. 7.6. Distribution of sites with tree motifs by province. They are most numerous in Mashonaland East and Matabeleland South.

7.1.2 – Underground Storage Organs (USOs)

USOs are the second most numerous category of botanical motifs, comprising 31% (190 of 613) of individual motifs (fasciculated roots are counted as one) from 24 sites. They are largely found at sites in the northeast of Zimbabwe with 75% (18 of 24) recorded in Mashonaland East and Mashonaland Central provinces (see figures 7.7 & 7.8).

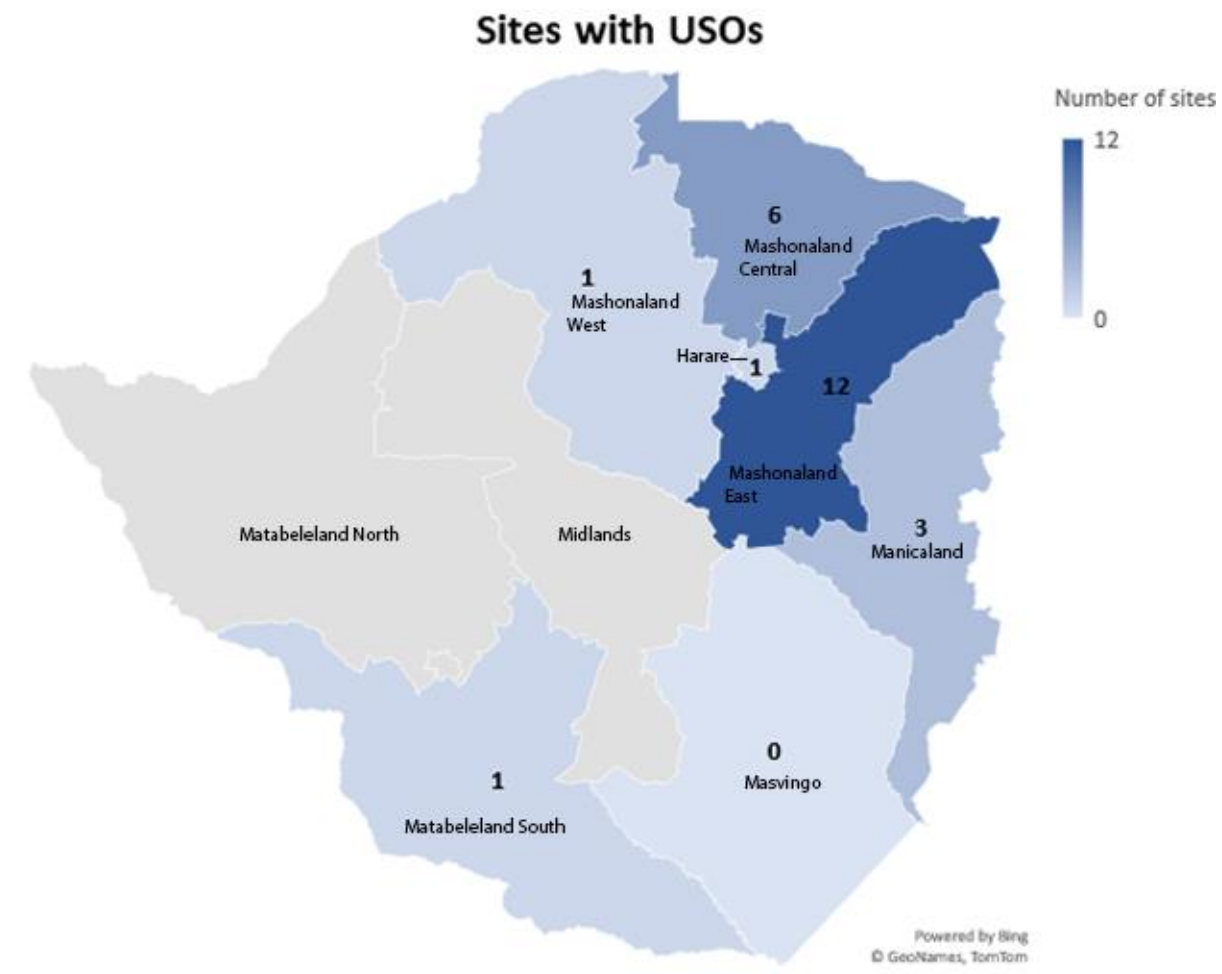


FIG. 7.7. Underground storage organ motif site distribution in Zimbabwe by province.

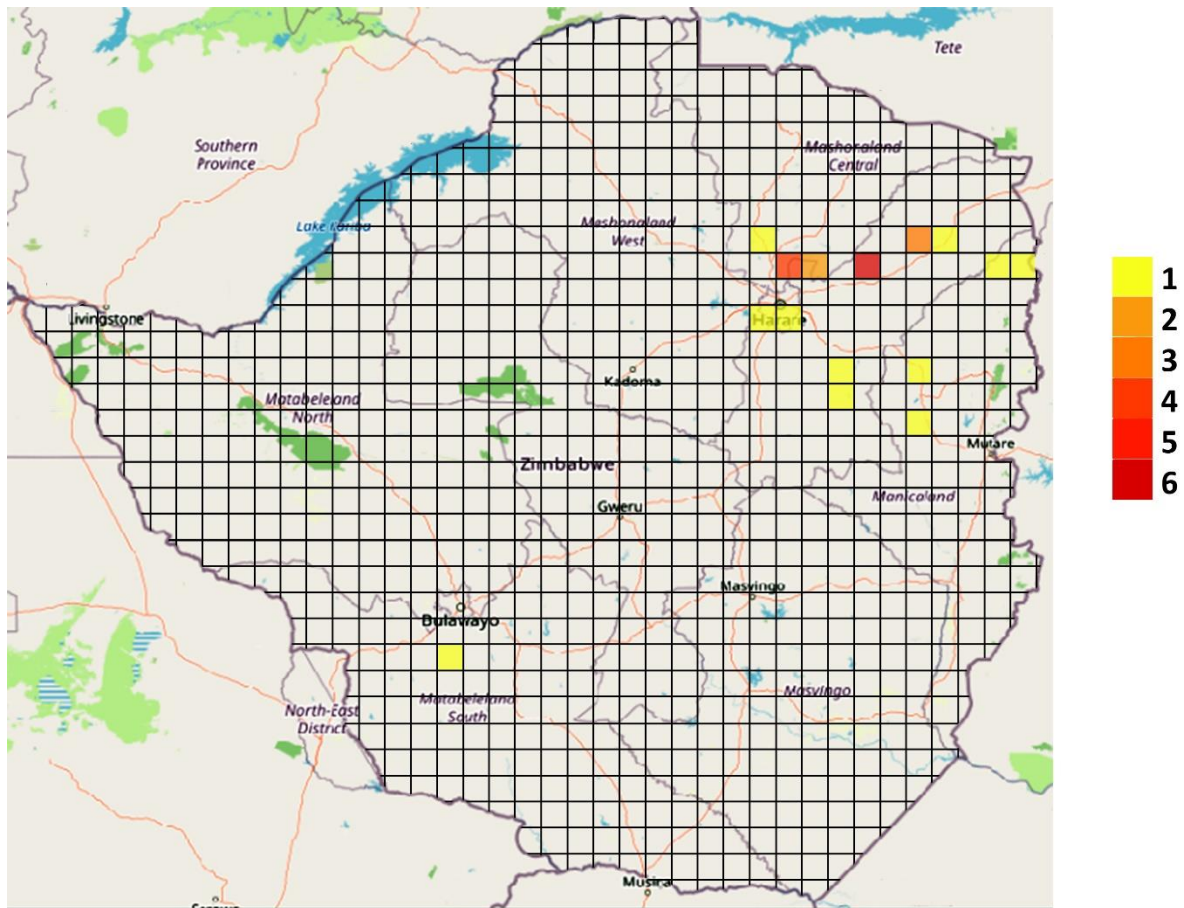


FIG. 7.8. Sites with USOs in Zimbabwe (grid square spacing: 0.2 degrees). Sites with USOs are found almost exclusively in north-eastern parts of the country.

The other categories of botanical motifs, including leaves, fruit, flowers, mushrooms, and phytomorphs, are found most frequently in Mashonaland East province.

7.2 – Plants and their associated motifs

Botanical motifs' meanings are often informed by the motifs associated with them (see Chapter 6). Table 1 (Appendix B) and figure 7.9 show the frequency in which the associated motifs discussed in Chapter 6 occur with botanical motifs. Only sites with botanical motifs are recorded and studied because it is beyond the scope of this dissertation to record all the sites with associated motifs (e.g., flecks or formlings) with no botanical motifs. It is because of this that these frequencies are always based on the number of sites with botanical motifs and not the associated motifs. Of the sites with tree paintings, 35% (24 of 68) have formlings accompanying them. Formlings are depicted with USOs 48% (11 of 23) of the time.

Flecks are associated with all types of tree motif as well as USOs. They are frequently painted at sites with trees I interpret as palm trees: fronds 70% (16 of 23), and lobes 59% (10 of 17). Surprisingly, flecks occur at sites with trees showing flecked canopies 50% of the time, but because of the low number of sites (2 of 4 sites) and the possibility that flecked canopies could be fronds (another way to depict them or from the canopies fading), this might not always be the case.

Mguni (2002: 141, 159) asserts that giraffes are often painted with botanical motifs; I record that they are painted with botanical motifs relatively infrequently, 21% (14 of 68) with trees and 13% (3 of 23) with USOs, although this might be the case because these sites are the majority of the giraffe paintings that are seen.

USOs are the most frequently depicted botanical motif associated with the following animal motifs: tsessebe 43% (10 of 23), warthogs 48% (11 of 23), kudu 57% (13 of 23), sable and roan 48% (11 of 23). They occur with formlings at 48% (11 of 23) of sites studied.

Men are more frequently painted at sites I have examined with USOs than women; 78% (18 of 23) and 65% (15 of 23) respectively. This is unsurprising given the overrepresentation of men compared to women in southern African rock art (Lewis-Williams 1983: 19), but women are painted ‘interacting’ with USOs most at 100% (6 of 6) of sites with this human–USO interaction. There are six examples of humans climbing trees of which 100% (6 of 6) are men.

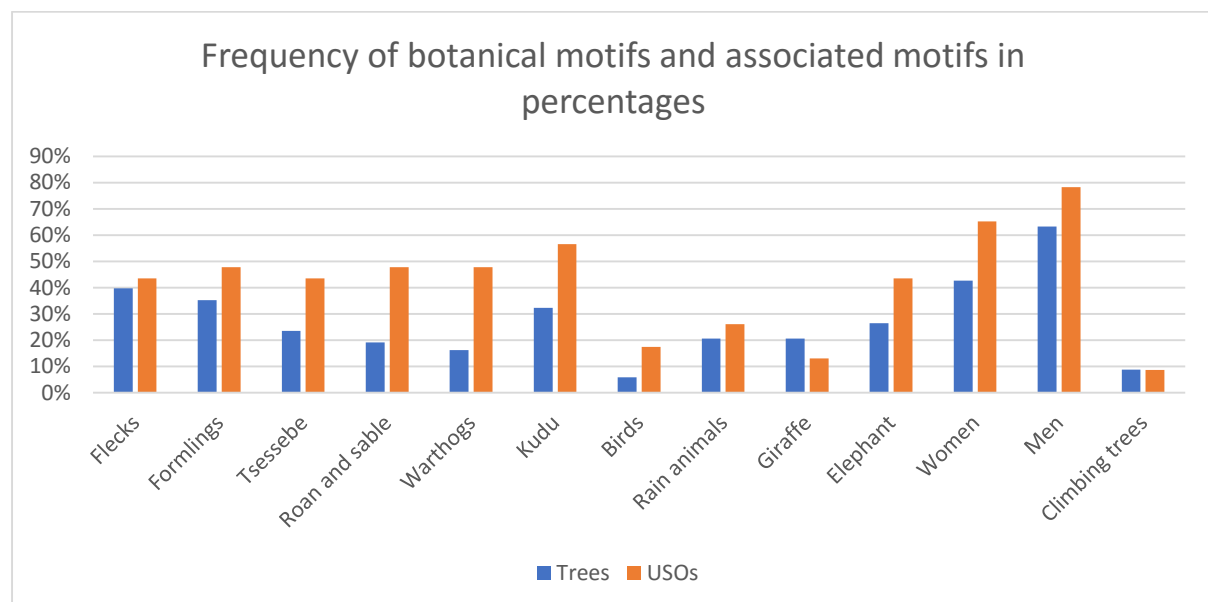


FIG. 7.9. Percentage of the frequency of association between botanical motifs and motifs discussed in Chapter 6. USOs, although less numerous than tree motifs occur more frequently at sites with associated motifs.

CHAPTER 8 – DISCUSSION AND CONCLUDING REMARKS

Plants played a pivotal role in the lives and subsistence strategies of southern African hunter-gatherers as sources of food, drink, medicines, as well as hunting poisons, building materials, and clothing. These have been the focus of much of my research on the topic in the preceding chapters. However, the paintings of plants attest to a significantly greater role that they play as a means of travel, as metaphors for being underground, as sources of potency, and as a means to mediate the relationships between human-persons and other-than-human persons in animic ontologies. Through their use as intermediaries, they allow for people to mediate their relationships with various animals and natural forces, most notably animals closely associated with, or from, an emic perspective, inherently linked to the rain.

8.1 – Plants as a means for travel

In cultures with a tiered or stratified cosmos, supernatural or mythical trees transcend realms on the vertical axis much like ‘real’ trees, which connect underworld (underground and underwater), above ground (material world) and the sky, that they are modelled on (Mguni 2002: 51, 2009: 143; Rappenglück 2018: 254). As discussed in Chapters 2, 4, and 5, ethnographic records show that San and other southern African hunter-gatherer groups use trees for this purpose often to climb to the spirit-world (Bieseke 1978: 929–933; Guenther 1999: 188; Mguni 2009: 144–145). Similar beliefs are presented in the rock art in Zimbabwe, where there are six examples on record of humans climbing trees, most commonly bare trees. These trees have been painted bare to remove all other features that would detract from their primary purpose as a means to climb to the spirit-world in the sky. Bare tree motifs are likely a metaphor for (and a tool used by) ritual specialists who have left their body during a deep trance state, in order to obtain potency to heal or influence the weather and game. Less commonly, trees are used as a means to travel underground (Orpen 1874: 8–10; Bieseke 1980: 56). In many instances bare trees fulfil the same role as the line, threads of light, or ‘ropes to god’ found in the Maloti-Drakensberg (Walker 1996: 67; Lewis-Williams & Pearce 2004a: 179) and are representations and manifestations of a means of travel to the spirit-world (Mguni 2006a: 65).

8.2 – Plants as metaphors for underground

Botanical motifs act as pictorial metaphors for experiences and concepts related to trance and the spirit-world. USOs such as tubers and bulbs, and tree roots relate to being underground. Long lateral tree roots, most commonly on bare trees found in Matabeleland South, create a ‘groundline’ on which animals stand or lie. The tree roots demarcate what is above ground (the material-world) and what is below (the spirit-world). USOs are often painted alongside other motifs associated with being underground, (e.g. warthogs, tsessebe, sable, roan, and formlings) and being underwater (fish). As I argue in Chapter 6, these animals are seen as linked to the USOs via their connection with the underground spirit-world. This can best be seen at the paintings at Thetford rock art site (figure 7.8) where multiple types of tubers and roots are painted with tsessebe, roan, sable, and a warthog.

Women are associated with USOs, in part because of the apparent division of labour delegating the task of gathering and preparation of plant foods to women. Although this division is by no means universal, depictions of women with USOs and gathering accoutrements such as digging sticks, gathering bags, and grind stones frequently occur together. This connection goes beyond the prosaic gathering of plant foods and strongly suggests a much deeper connection between women, and the spirit-world, specifically underwater and underground. Mguni (2015: 146–147) argues that formlings, because of their ability to transcend realms, their excess amounts of potency, and their central role in many creation narratives, act as metaphorical wombs.

8.3 – Rain and plants

The role of plants in southern African hunter-gatherer cosmology and daily life are largely in some way to do with water, or more specifically rain. Humans use plants to affect and alter the rain, either by the use of plant ‘charms’ to help capture rain-animals and to influence animals that are linked to rain. Botanical motifs and the other associated motifs including, but not limited to, tsessebe, roan, sable, kudu, formlings, termites, swifts, rain-animals, women, and flecks, are all metaphors centred on rain.

8.3.1 – Flecks as graphic representations of rain

Flecks are a common feature in the rock art of Zimbabwe, most commonly recorded around arboreal motifs, specifically tree motifs with flecks, fronds, and lobed canopies (palm trees, see Chapter 5 section 5.2.1). Motifs of flying birds such as swifts and potentially red-billed queleas, rain-snakes, blood of rain-animals, blood of animals associated with rain, and fish have all been recorded as being depicted as flecks in some form and are all tropes relating to rain. It is because of this that I interpret flecks as idioms for rain. If I am correct, then the plants associated with flecks in these contexts must, at least in part, be linked to rain³.

As I argue in Chapter 5, tree motifs with flecked, frond and lobed canopies are in most instances very likely to be modelled on palm trees. These tree motifs are most commonly associated with flecks. They are the most numerous tree motif type and comprise 61% (155 of 253) of all tree motifs, and 25% (155 of 613) of all botanical motifs recorded in this study. Due to wide distribution of the motifs and the frequency with which they are painted, it is evident that they were of importance to the hunter-gatherers of Zimbabwe. I argue that this may in part be due to their sugar-rich sap (Dalibard 1999: 1; Saputro *et al.* 2019: 863), which, much like fat and honey, contains an abundance of supernatural potency (Lewis-Williams 1981a: 50; Huffman 1983: 50; Lewis-Williams and Dowson 1989: 63; Walker 1996: 72; Mguni 2002: 62, 74; 2015: 146–7; Lewis-Williams & Challis 2010; Hollmann 2015: 344). Palm sap is tapped from trees and used as a beverage by San groups in Namibia (Dinter 1912: 21–22 in Story 1964: 15) and by farmer cultures throughout much of Africa (Meredith 1948; Cunningham 1990; Mabogo 1990: 60; van Wyk & Gericke 2000: 106; Shava 2005: 86; Sola *et al.* 2006; Flitsch *et al.* 2014: 186). There are three possible depictions of men tapping palm trees (see Chapter 6 section 6.10.2). Large volumes of sap are produced, up to 60 litres a day. This equates to approximately 0.7ml per second, which would produce an observable flow of fluid and not a gentle seep. The clouds of flecks that seem to flow between palm tree motifs could allude to the flow of sap from palm trees. This suggests a connection between the flow of sugar- (and potentially potency-) rich sap and the flow of rain, in the form of rain-snakes.

Palm sap rapidly ferments due to the presence of natural yeasts found on the exterior of palms, to produce a mildly alcoholic wine (Mabogo 1990: 60; Mba *et al.* 2019: 842). If these three

³ However, it must be noted that only sites with botanical motifs are used in this study and flecks may play different roles in other contexts.

paintings show the tapping of palm trees for their sap, which rapidly ferments into palm wine without any processing (Dozier 2016: 8), then it stands to reason that these three panels are evidence, albeit indirect, of alcohol fermentation. There is ethnohistorical and archaeological evidence of peoples across southern Africa who ferment honey, water, and plant additives to produce alcohol (see Rusch 2020) but no archaeological evidence of palm sap fermentation in southern Africa at the times these paintings are likely to have been made, approximately 10 000 to 8000 BP (Walker 1996: 14).

8.3.2 – Women and rainmaking

On the basis of the repeated association of women underground and rain metaphors and tropes, women in Zimbabwe were actively involved in rainmaking and healing dances (e.g. the Thetford rock art site). They constitute a quarter of human figures with identifiable genders (Garlake 1995: 53) but they are more commonly depicted with USOs, rain and underground metaphors than men. At sites such as Madzimudzangara, Thetford, and Mutoko, women are painted dancing in juxtaposition with large tubers, bulbs, and roots. At Thetford there is a procession of women dancing below two figures. One of the figures appears to be a healer and the other figure is curled up in the foetal position in a natural depression in the rockface. The procession of women leads into a large crack in the rock face, i.e., into the spirit-world.

Analysis of the rock art suggests that human and therianthropic women in Zimbabwe were more actively involved in rainmaking—at sites with botanical motifs—when compared to the ethnographic material and rock art of South Africa (Solomon 1992). Paintings of women squatting with distended stomachs (full of potency) often hold or are juxtaposed with figures holding oval plant ‘charms’. Many have arcing or zigzag lines that emerge from their genitals, which is interpreted as menstrual blood or amniotic fluid (Solomon 1992: 318 *cf.* Garlake 1995: 89), a substance rich in potency and fundamentally connected to rain.

As discussed, the connection between ‘femaleness’ and rain is present in the rock art in Zimbabwe, which parallels similar beliefs held by numerous hunter-gatherer and San groups in the Kalahari and Northern Cape of South Africa including the !Xam, Jul’hoānsi, and !Xoõ (Marshall 1957: 235; Heinz 1975: 8; Huffman 1983: 52; Jolly 1983: 82; Solomon 1992: 296; Bieseke 1993: 165–181; Bieseke & Barclay 2001: 75; Eastwood & Eastwood 2006: 138;

McGranaghan 2012: 433; Lewis-Williams 2015: 127), largely centred on their connection with their fertility and the fecundity of the land brought about by rain.

8.3.3 – Tsessebe and rain

Ritual specialists intending to control the rain would take on attributes or potency of animals linked to the rain (Lewis-Williams 1980: 475; Hollmann 2005a: 24–25; Low 2011: 300; McGranaghan & Challis 2016: 591). Tsessebe behaviour is largely centred on termite mounds and dictated by rain (Joubert 1972: 146–149; Estes 1991: 144). It stands to reason that tsessebe therianthropes, such as the one at Murombedzi, might be ritual specialists ‘owning’ tsessebe potency aiming to influence the rain, much like the swift therianthropes Hollmann (2005a: 24–25) identifies in South Africa.

8.4 – Plant-people

Phytanthropes are unique to Zimbabwe and therefore there is little precedent to compare them to in the corpus of southern African rock art. The closest type we have are therianthropes (individuals with human and animal physical characteristics). Based on research into therianthropes, I argue that there are five possible explanations for what these phytanthropic figures are: 1) humans in the process of transforming into plants, 2) plants transforming into humans, 3) humans who have taken some of the physical characteristics and therefore culturally specific qualities those attributes of that category of plants, 4) representations of the somatic hallucinations commonly experienced during trance, or 5) chimeric entities that are part plant and part human. Guenther (2019: 107–120) lays out potential explanations for what therianthropes represent and potential features to look for to determine which they are. The essentially come down to two possibilities: they are representations of beings in the process of transformation, or amalgamated beings. He posits that in order to determine whether therianthropes show hybridity or transformations one must first,

“...look at a representation of such a figure in isolation, to gauge, from its overall appearance, its posture and gait, the tentativeness and nascence of its form, the extent to which certain body parts have mutated, whether or not the figure is forming or formed” (Guenther 2019: 108).

Following this, one must look at how evenly distributed the ‘other’ features are and look for the presence of cultural objects such as sticks and karosses, which likely point to humans transforming into animals (Guenther 2019: 110–111). An uneven distribution of transformed features and human objects suggests that they are very likely to be transforming humans (*ibid.*). Plants do not perform postures per se and do not move—at least at a rate observable by humans—but humans do, so this can be helpful but to a lesser extent than with therianthropes. However, looking at the distribution of people to plant features can yield results. Fortunately there are recorded drawings in the Bleek and Lloyd archives (e.g., Bleek & Lloyd 1911: 20, 32, 292, 308, 309; Digital Bleek and Lloyd: Image NLLB_D_!n029) by various San informants showing |Xue (a Jul’hoān deity/mythological character) transforming or transformed into plants. The botanical features on |Xue are very unevenly distributed, supporting the argument that this uneven distribution shows transformation in progress, which is corroborated by ethnographic accounts (LL.XI & XII.5. 9362-9377, 9379, 9380v, 9381-9384, 9385-9391, 9391v, 9401v; LL.XI & XII.8.9608-9618, 9624-9626), and his final transformation is complete and he has no human features remaining.

I postulate that the geophytic phytanthropes in figures 5.44 and 5.45 are unlikely to be plants transforming into humans. They all have a relatively even distribution of plant features but in humanlike postures, which suggests that they are not in the process of transforming but have completed their transformation from humans to a human-plant amalgam. The phytanthropes from the Thetford site (figure 5.44) have a relatively even distribution of plant and human features but are painted in human-like postures: upright standing on two tuberous ‘legs’ and two tuberous ‘arms’ with the largest figure with its ‘arms’ spread out with roots spreading beneath them. The other two have more human-like stances and proportion of feature, including what appears to be a head on the smallest of the three. These postures and proportions are found in the phytanthropes in both 5.45A & B. In figure 5.45A their upper portions are faded but each has two thick, tuberous ‘legs’ in a gait that suggests movement. In figure 5.45B the human features are less obvious and not as well distributed. The two very human-like legs are significantly smaller than the rest of the figure, but it too has two legs, at the bottom, the thick tuberous central body with forming feature contained within, and three sprouting vine-like growths from the top with two perpendicular to the body and one continuing straight very much like those in figure 5.44.

With only seven phytanthropic figures with readily apparent plant and human features and only detailed ethnographic accounts of one character (*!Xue*) who repeatedly turned into plants, I am cautious to make a definitive conclusion on what or who these figures are, but I speculate that they are humans in trance who have either taken on some plant attributes that are emically important or show their interpretation of the somatic hallucinations felt in trance. The sensations of pilo-erections experienced as roots growing from and forming into their limbs, their tightness and compression as being underground, and the boiling of potency—the metaphor for this is “... the ripening of plants” (Lee 1967: 33, 1968: 43)—and the subsequent expulsion of this energy with the essence of that person (Marshall 1969:350–352; Katz 1982:41–46) as the thin vines growing and ramifying from the tops of their heads. It is likely that it is some combination of both with the latter informing and reinforcing the former.

8.6 – Avenues for future research

Although extensive, this study forms a foundation on which much further research can be conducted on a rich topic. Studying botanical motifs in Zimbabwe, I have gained a better understanding for the manners in which they can be depicted (especially the less apparent motifs e.g., plant ‘charms’). From this I have identified botanical motifs in South Africa, eSwatini, Lesotho, Namibia, and Tanzania, as well as later “farmer” rock art in Zimbabwe. There is scope to study regionality of plant motifs and how these could have been influenced by different biomes in which they are situated.

Other avenues for future research would be to compare the corpus of botanical motifs from Zimbabwe with:

- 450 drawings of plant along with depictions of characters the *!Xam* associated with plants such as *!Xue*, various animals, and *!Khwa* from the Bleek & Lloyds archive
- numerous botanical motifs in the rock art of Northern Kimberly, Australia which spans six painting periods (Veth *et al.* 2018: 476) and includes 120 phytanthropes (Hammond 2016)
- excavated archaeobotanical material from Zimbabwe and of artefacts possible used with plants such as hafted tools for tapping palms and vessels for collecting sap. These could yield residues such as palm pollen in vessels thus corroborating the practice of palm tapping and alcohol fermentation.

CHAPTER 9 – CONCLUSION

From the study of 613 botanical motifs from 92 sites across much of the rock art regions of Zimbabwe, in conjunction with relevant ethnography from elsewhere in southern Africa, it is clear that plants played significant and varied roles in the lives and beliefs of Zimbabwean hunter-gatherers during the Later Stone Age. Plants were a means to travel in both the material and spiritual world by providing potency or Medicine to leave one's body in an altered state of consciousness, and by acting as a way to climb into the spirit realm in the sky (in the form of bare trees) or to descend underground/underwater as tree roots and USOs.

Botanical motifs are found in a variety of styles, and their geographic distributions and patterns of associations with other motifs were modelled on individual or confluences of plants found in the material-world and the spirit-world.

Many plants are linked in southern African hunter-gatherer cosmology to specific other-than-human persons and termite mounds. A common feature shared among them are their behaviours that are dictated by the rainfall and are able to facilitate the movement between realms. Many of these motifs show the associations between tubers and women, palm trees, flowing flecks, and rain. This research covers a wide range of material across much of Zimbabwe, yet it is clear that this is a starting point for many other avenues of research into the lives and beliefs of the LSA hunter-gatherers of Zimbabwe and provides vital strands of evidence to help build a more nuanced and complete understanding of hunter-gatherers across southern Africa.

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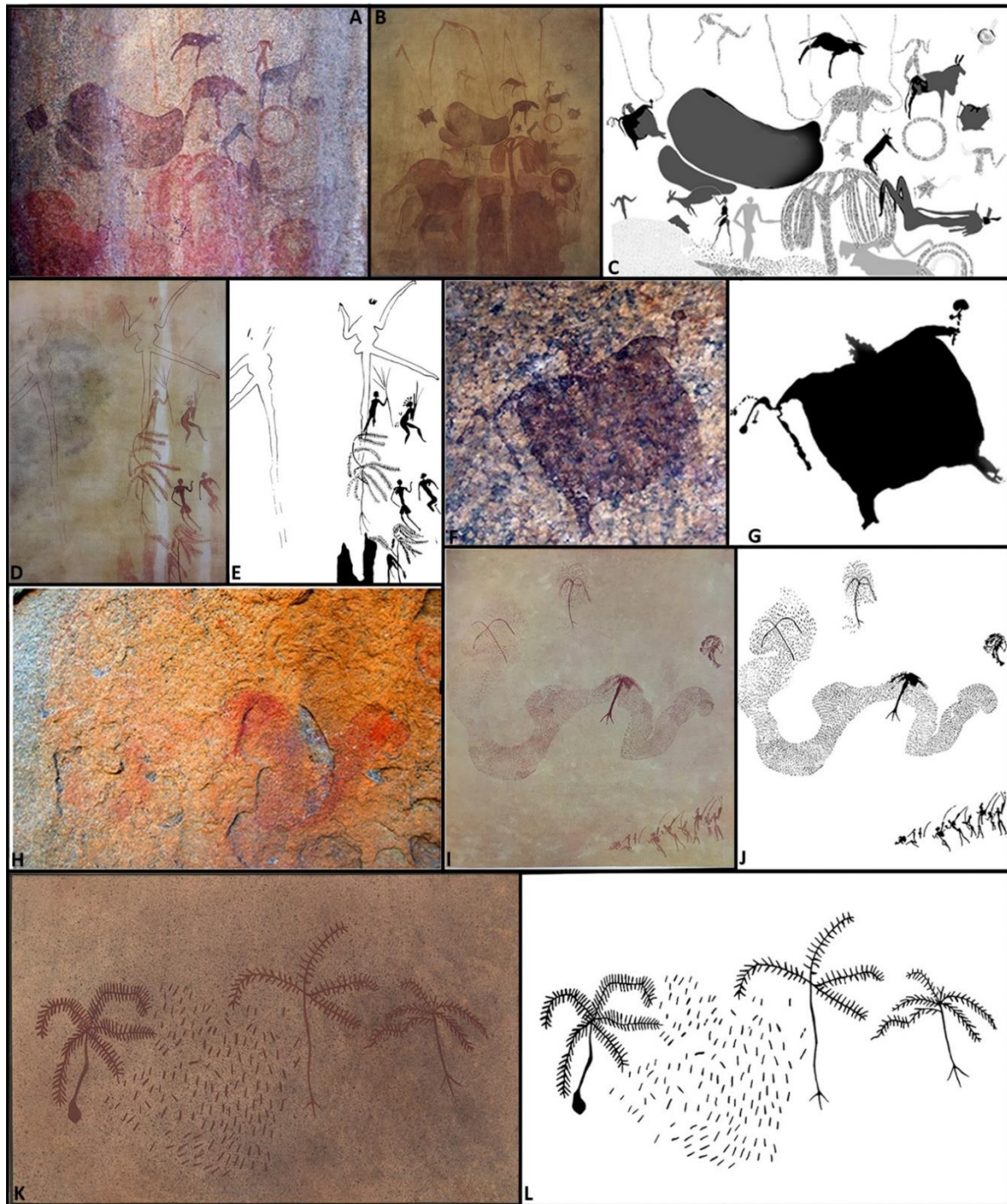
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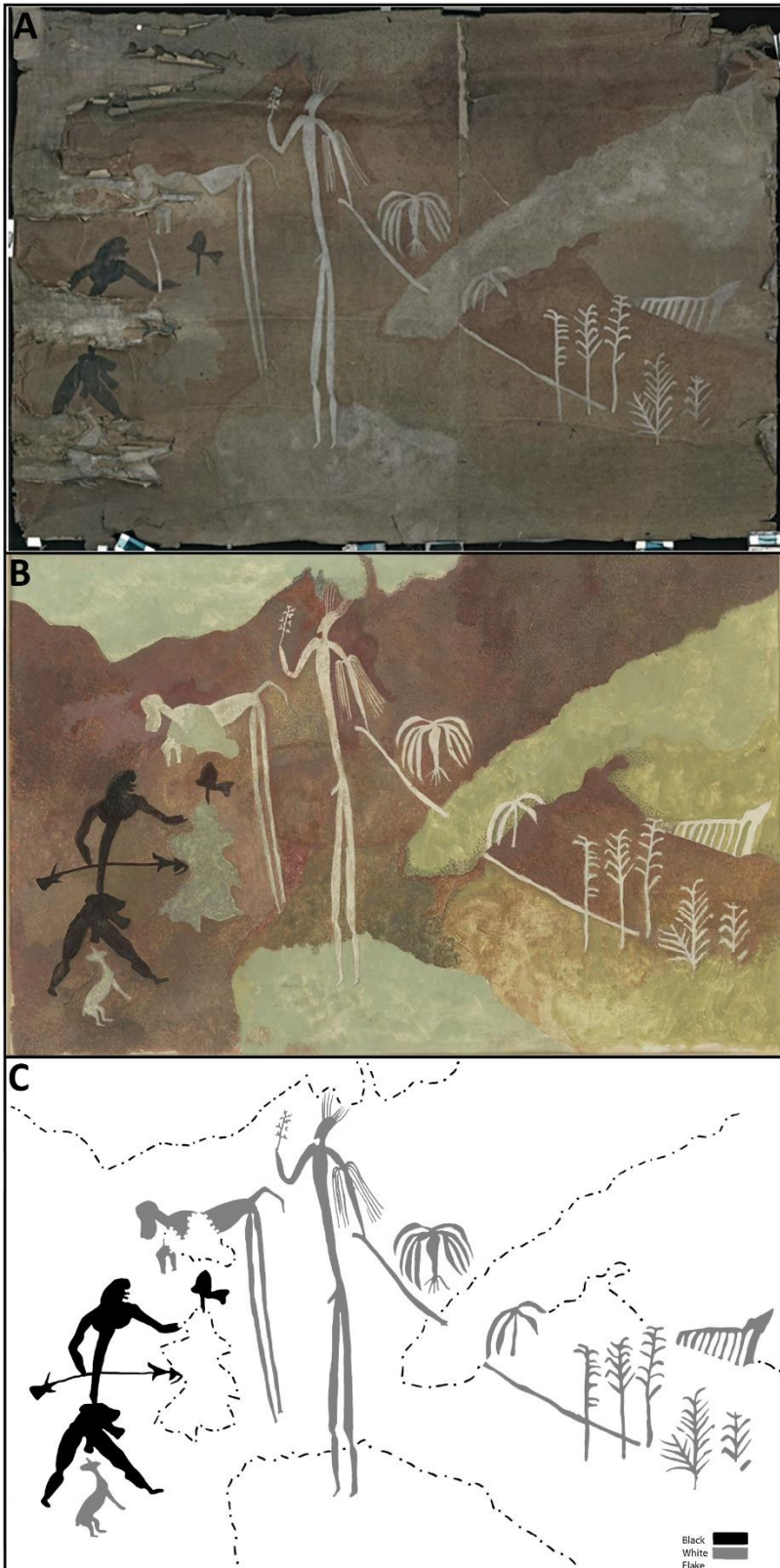
Zimbabwe Field Guide. Madzimudzangara Cave, viewed September 2019, from
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APPENDIX A

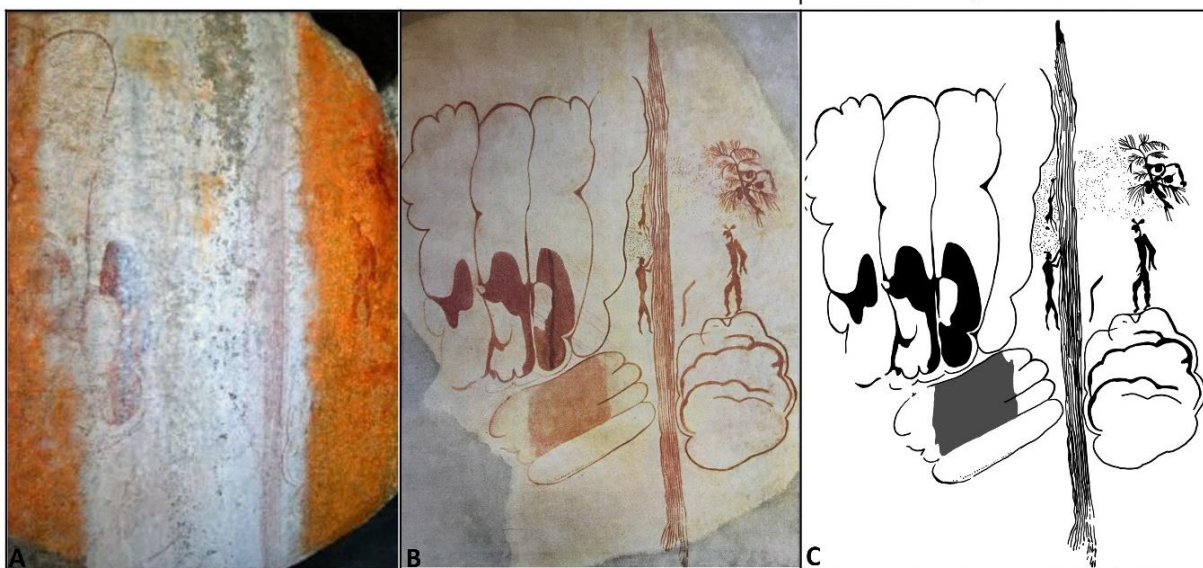
Harare



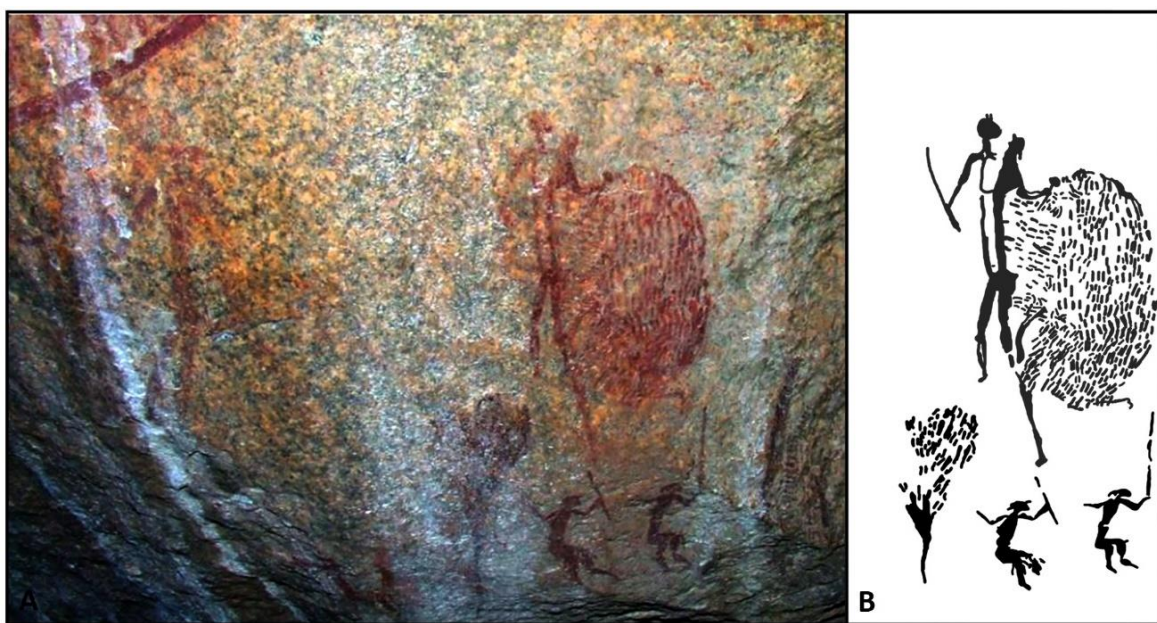
Chiremba, Epworth Mission. A) Photograph (Nhamo 2014: 229); B) Historical copy (FBA-D3 02323, © Frobenius Institute); C) Redrawing by author from B; D) Historical copy (Goodall 1959 Plate 35; E) Redrawing by author from D; F) Photograph (Nhamo 2014: 274); G) Redrawing by author from F; H) Photograph (Nhamo 2014: 228); I) Historical copy (Goodall 1959 Plate 38; J) Redrawing by author from I; K) Historical copy (FBA-B 02317, © Frobenius Institute); L) Redrawing by author from K.



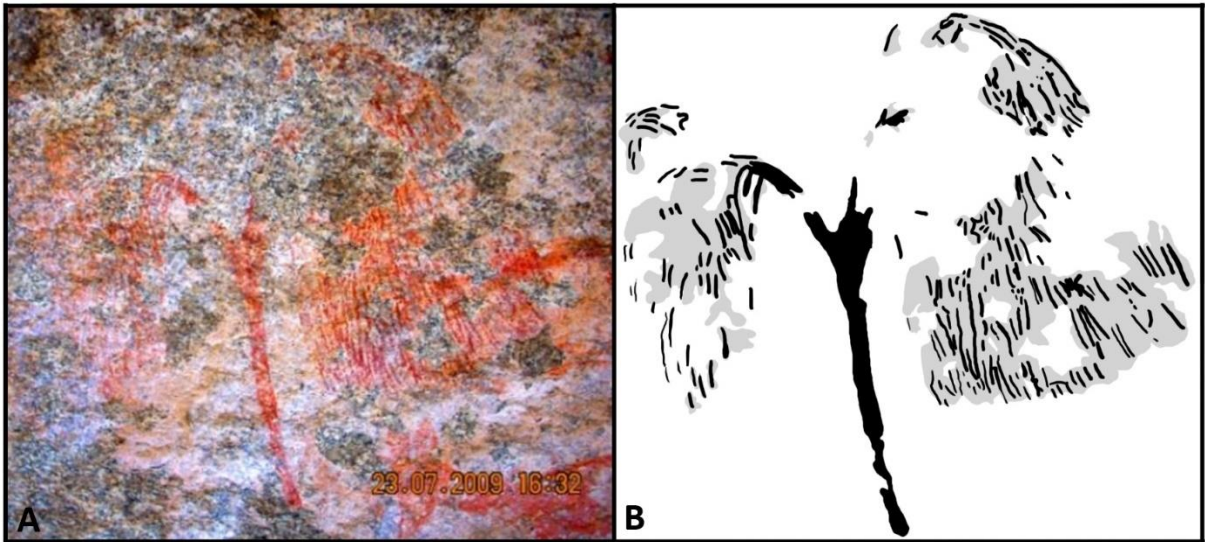
Makonwe Cave. A & B) Historical copies (FBA-C 01614, © Frobenius Institute); C) Redrawing by author from B.



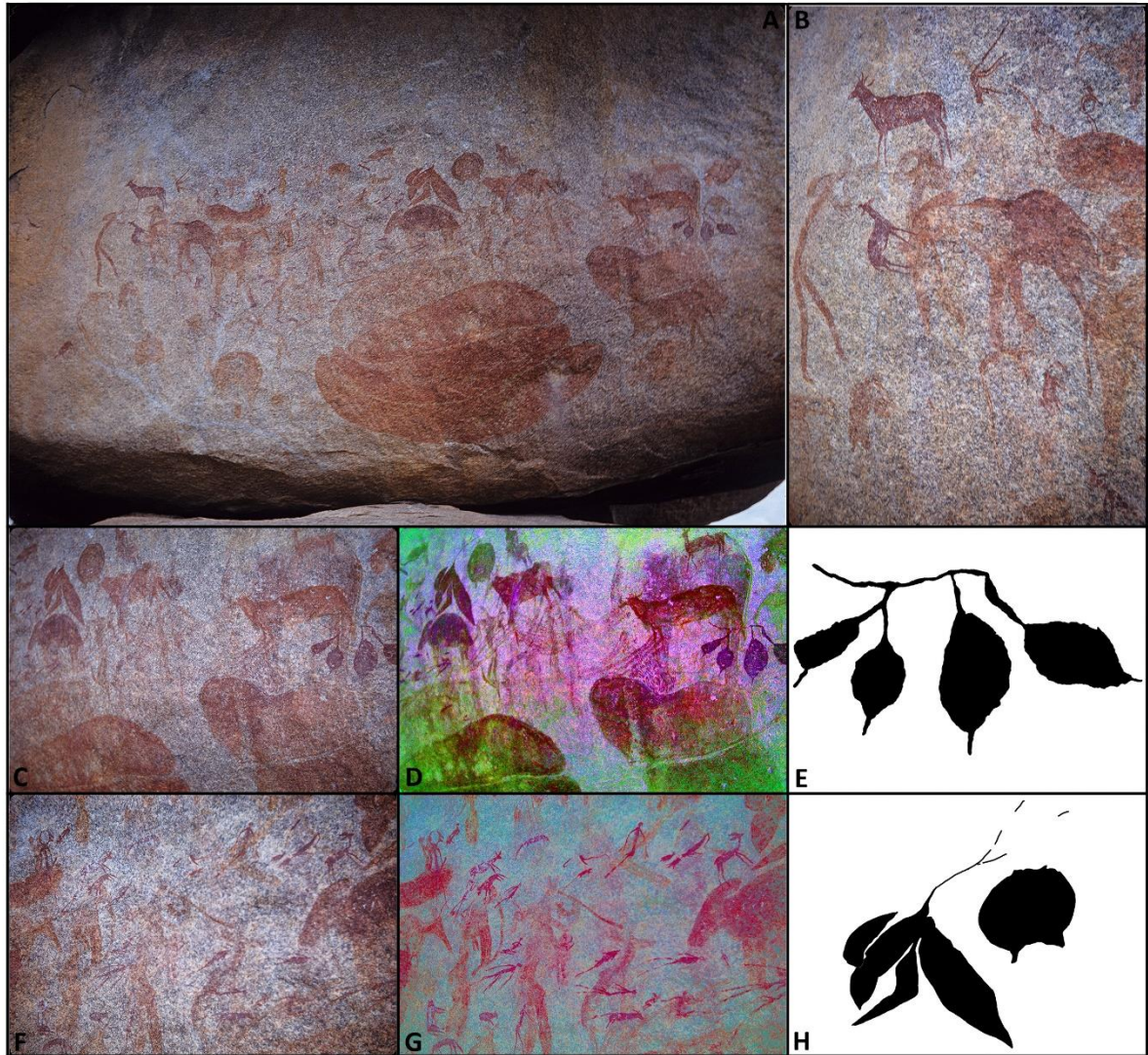
Mimosa Farm. A) Photograph (Nhamo 2014: 234); B) Historical copy (Goodall 1959 plate 29); C) Redrawing by author from B.



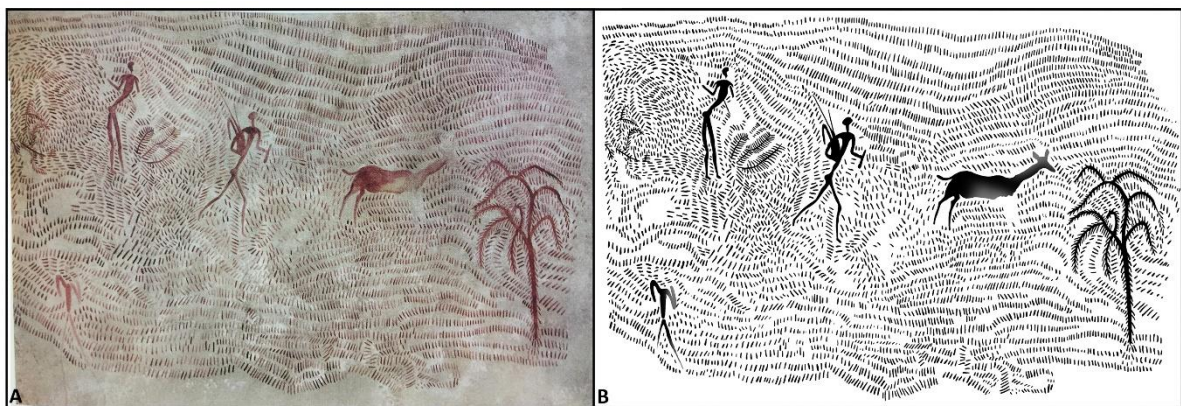
Oatlands. A) Photograph (Nhamo 2014: 249); B) Redrawing by author from A.



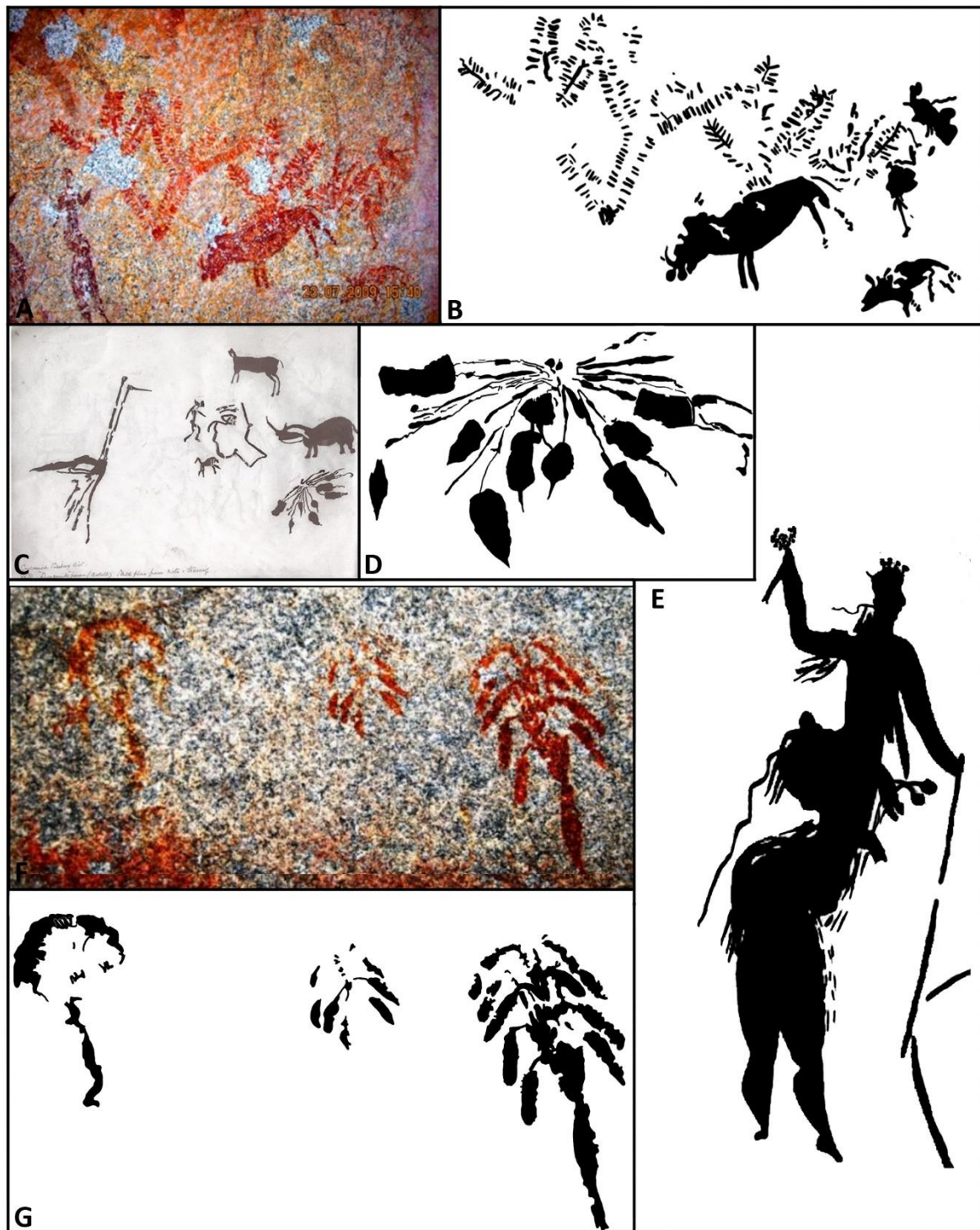
Rainham. A) Photograph (Nhamo 2014: 289); B) Redrawing by author from A.



Rodia. A, B, C, F, & G) Photographs (Lyle Tatum); D) C edited with DStretch_crgb); E) Redrawing (Garlake 1987b: 60 fig. 92; H) Redrawing by author of USOs from A (Edited: images isolated); G) F edited with DStretch_lre.



Ventersburg. Historical copy (Goodall 1959 plate 33); B) Redrawing by author from A.

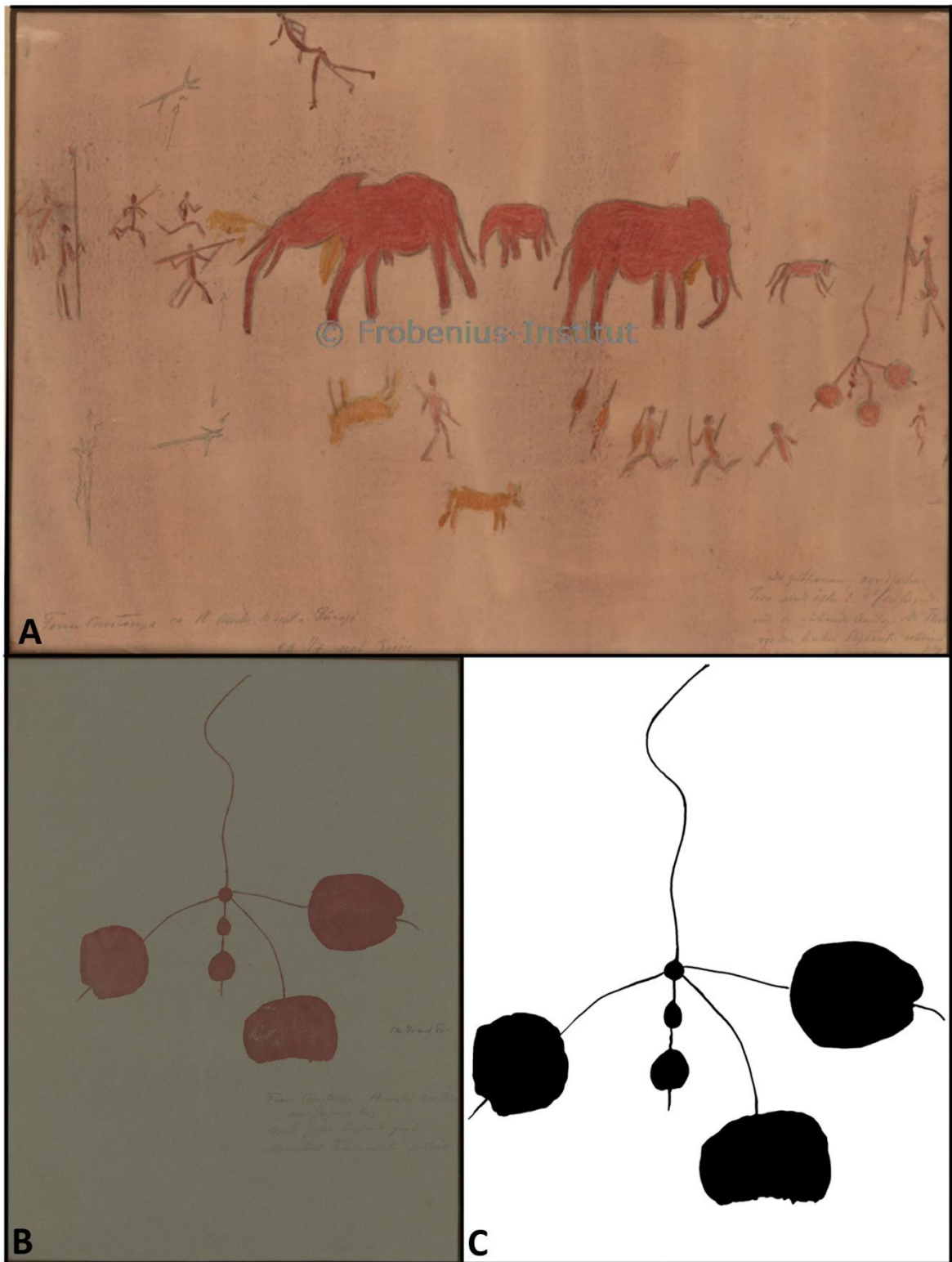


Harare, exact location not specified. A) Photograph (Nhamo 2014: 289 fig. 127b); B) Redrawing by author from A; C) Historical copy (Cripps in Nhamo 2007b: fig. 131); D) Redrawing by author from historical copy (Cripps in Nhamo 2007b: 38 fig. 55); E) Garlake 1995: 54 fig. 54); F) Photograph (Nhamo 2014: 289 fig. 127c); G) Redrawing by author from F.

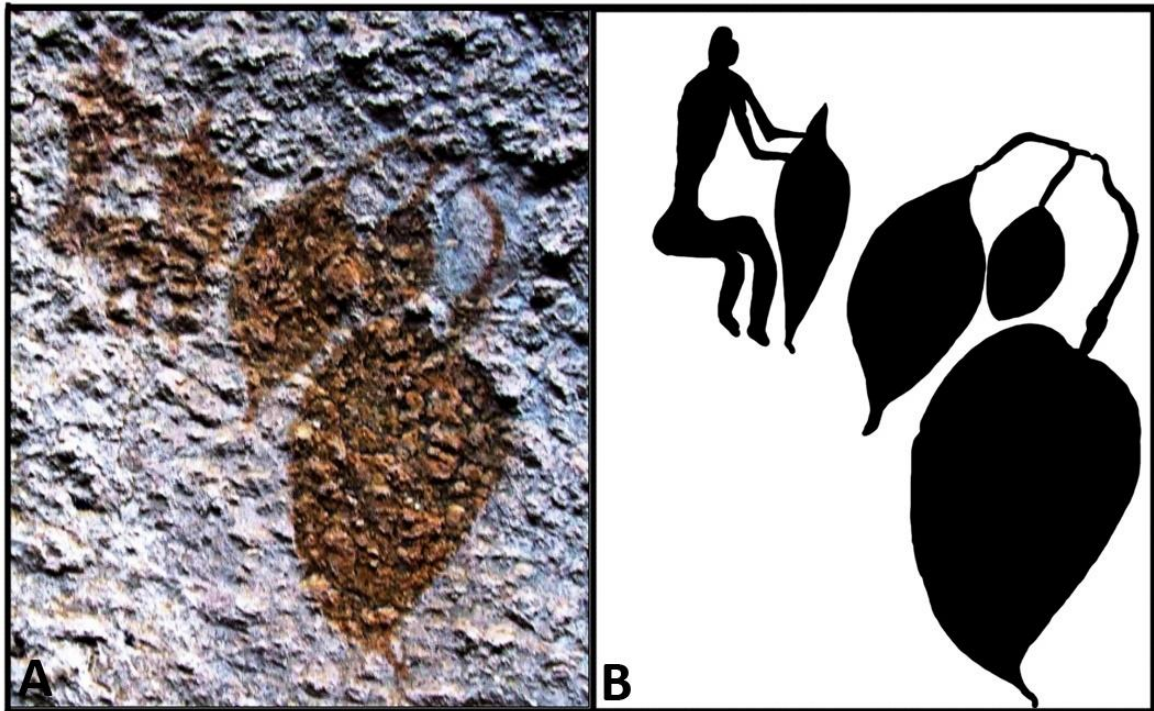
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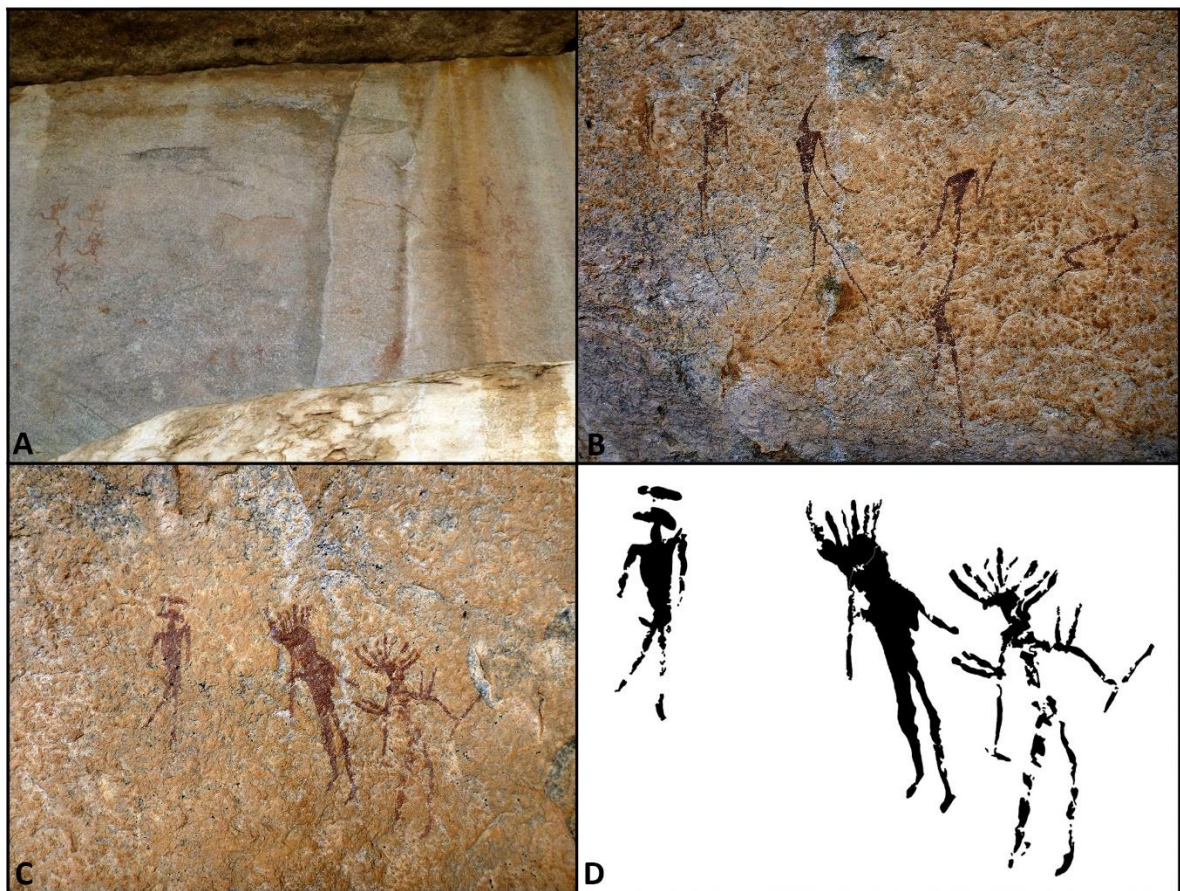
Diana's Vow, Makoni. A) Composite photograph (Lyle Tatum); B) Historical copy (FBA-C 01416, © Frobenius Institute); C & D) Photographs (SARADA. SMT ZIM DIA1 14& ZIM DIA1 37).



Constantia Farm, Makoni. A) Historical copy (FBA-B 00763, © Frobenius Institute); B) Historical copy (FBA-B 00676, © Frobenius Institute); C) Redrawing by author from B.



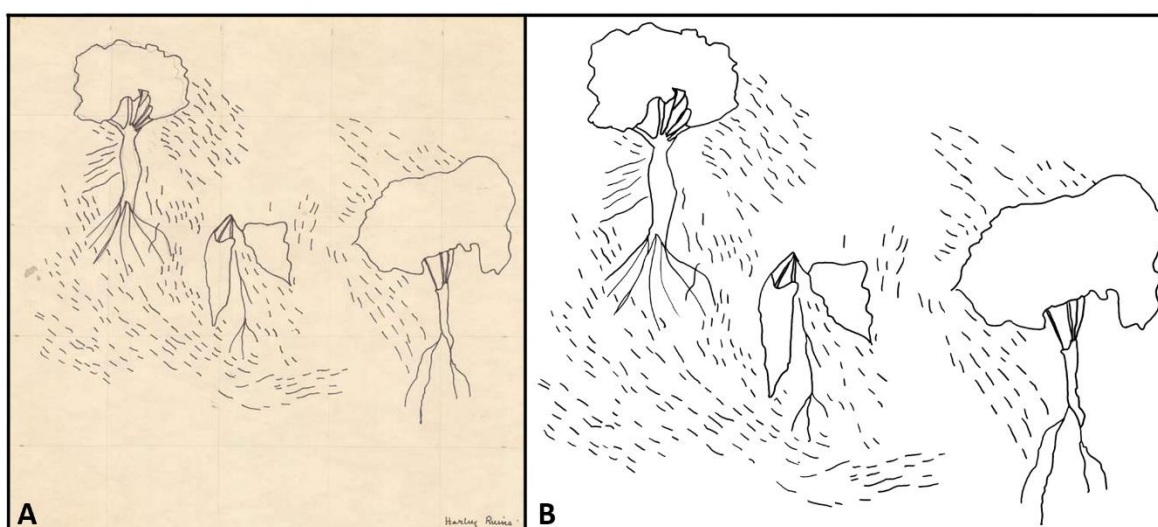
Garawizi 1, Nyanga. A) Photograph (Nhamo 2014: 137); B) Redrawing by author from A.



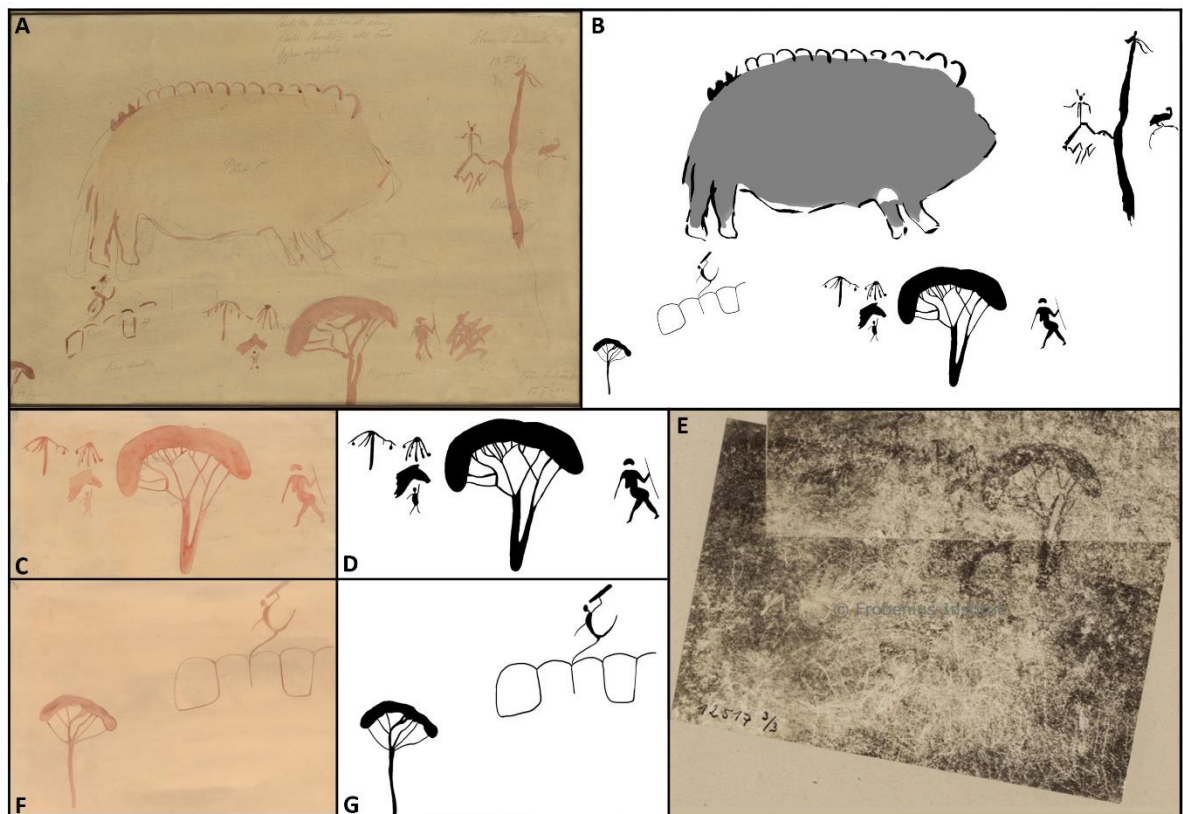
Gwangwadza. A-C) Photographs (Nicole Calame-Darbellay); D) Redrawing by author from C.



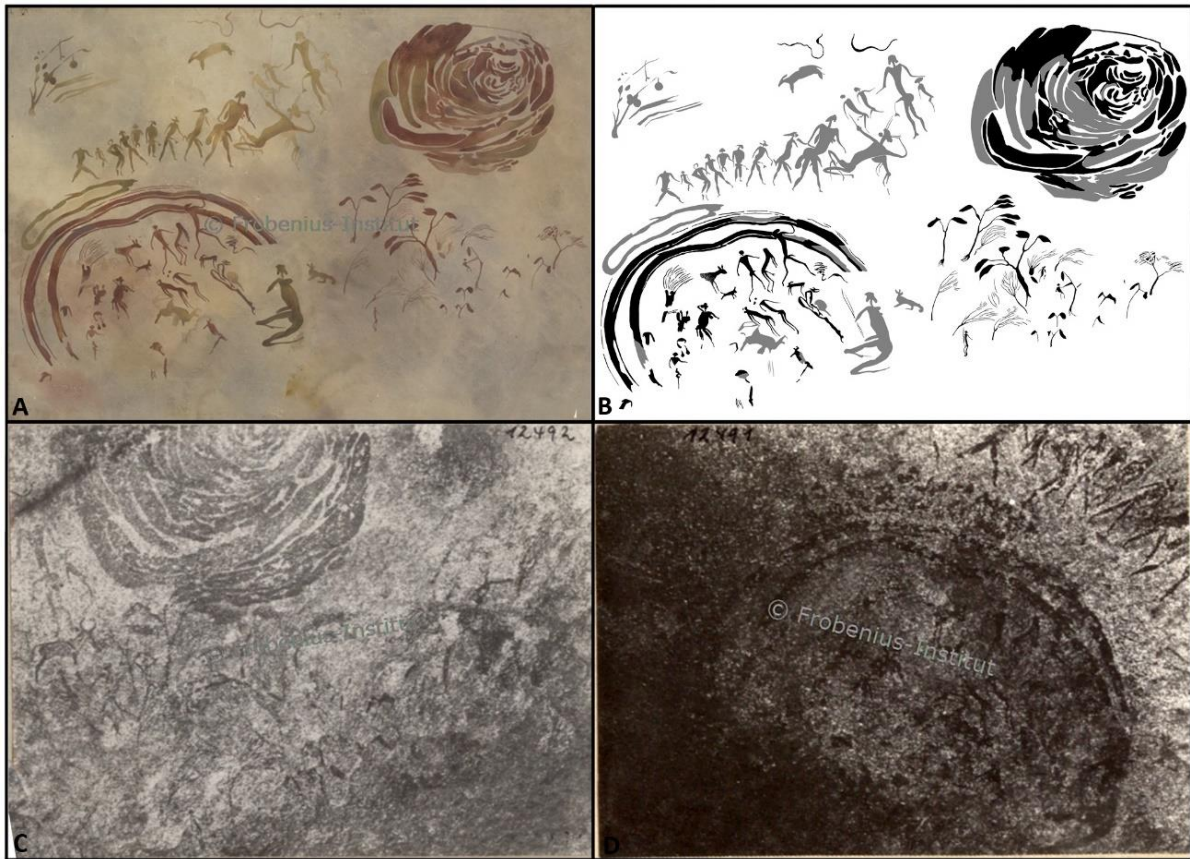
Gwenzi, Mutare. A) Historical copy (Cripps in Nhamo 2007b fig. 201c); Redrawing by author from B.



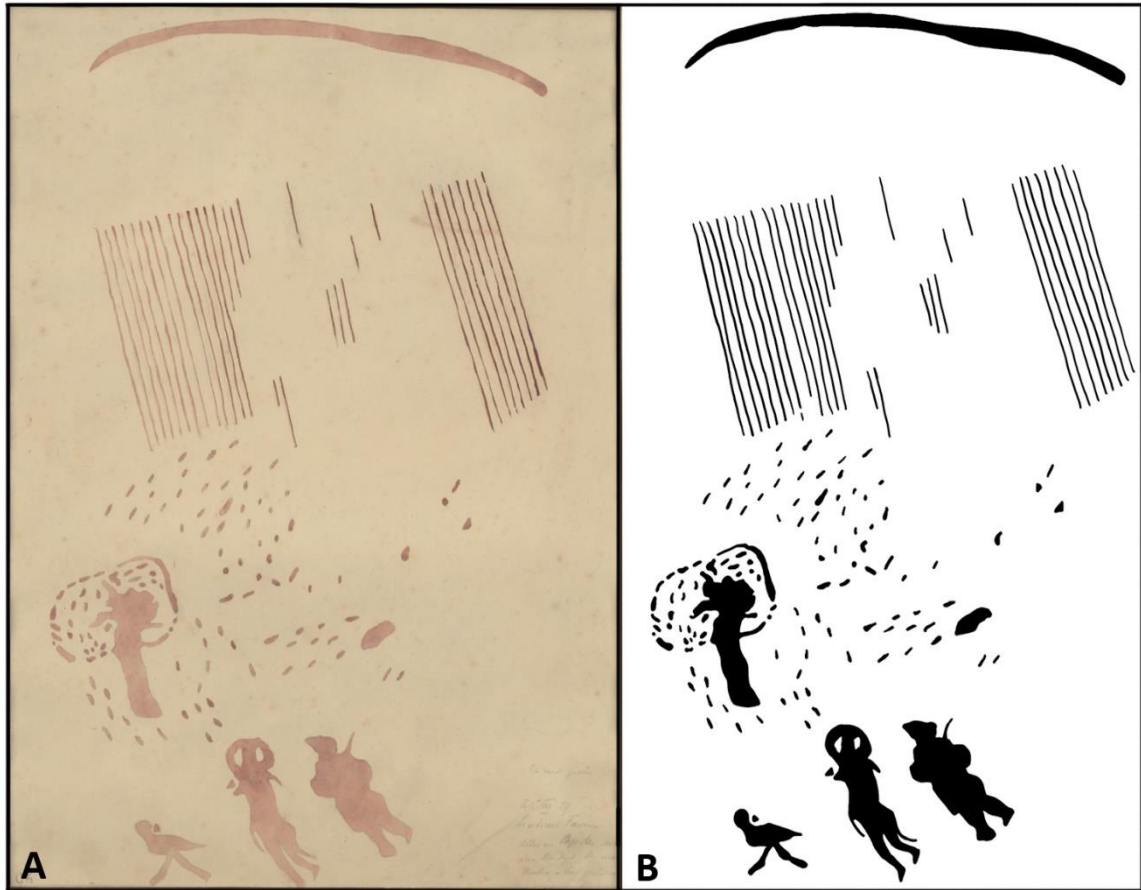
Harley Ruins 1, Makoni. A) Historical copy (Corona Thornycroft from SARADA. RARI CT 01 159HC); B) Redrawing by author from B.



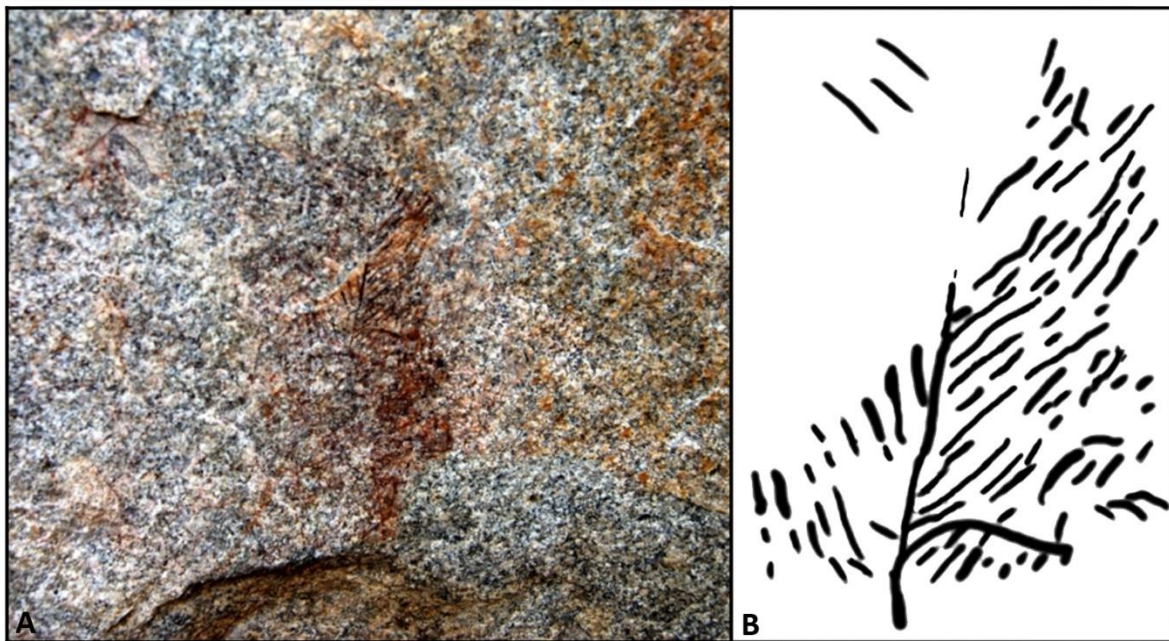
Lekkerwater Farm, Makoni. A) Historical copy (FBA-B 00711, © Frobenius Institute); B) Redrawing by author from A; C) Historical copy (Frobenius, SARADA. IZI LVF 01 321HC); D) Redrawing by author from C; E) Composite photograph (Frobenius FoA 09-12517 3-3); F) Historical copy (Frobenius, SARADA. IZI LVF 01 269HC); G) Redrawing by author from F.



Lesapi falls Farm, Makoni. A) Historical copy (FBA-C1 01516, © Frobenius Institute); B) Redrawing by author from A; C) Photograph (FoA 09-12492, © Frobenius Institute); D) Photograph (FoA 09-12491, © Frobenius Institute).



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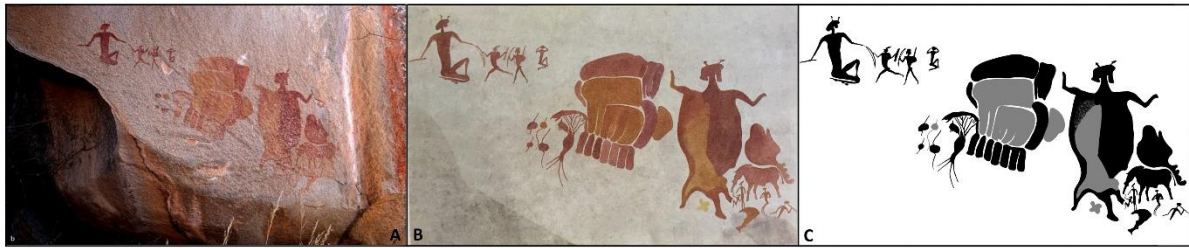
Mazizima, Nyanga. A) Photograph (Nhamo 2014: 130); B) Redrawing by author from A.



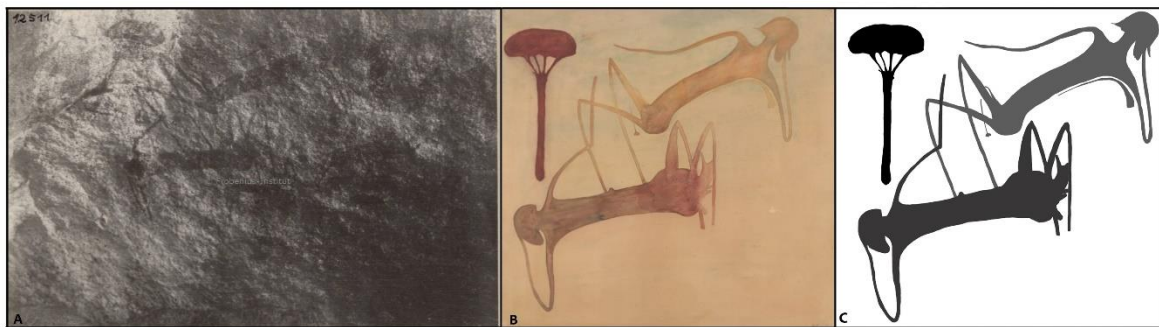
Meilenbach Farm, Rusape, Makoni. A) Historical copy (FBA-C1 01638, © Frobenius Institute); B) Redrawing by author from A.



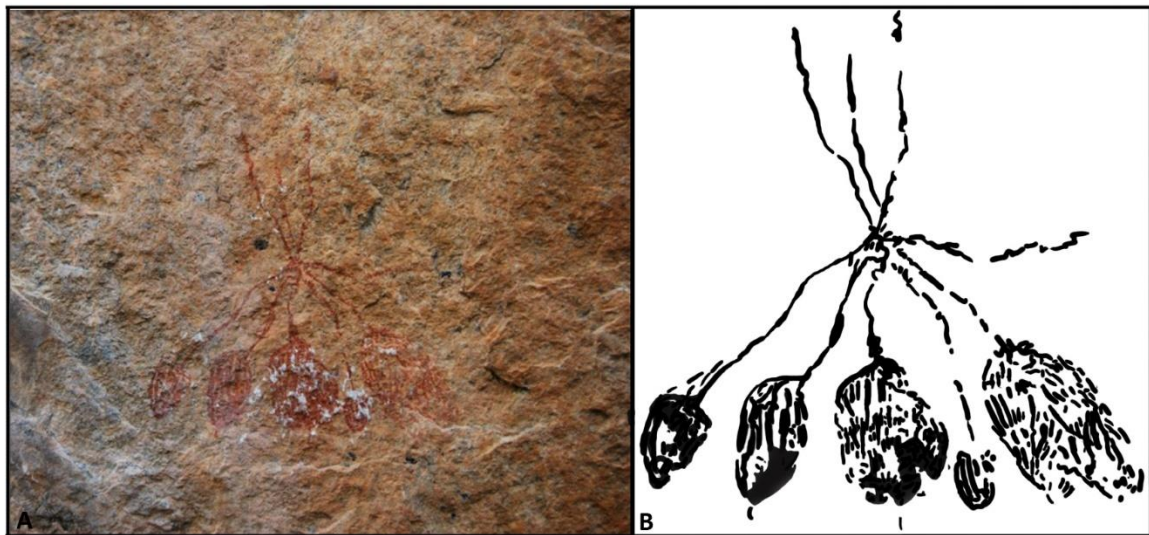
Mount Mwenji formerly Mount Maienjie, Odzi. A) Historical copy (FBA-D2 01518, © Frobenius Institute); B) Redrawing by author from A; C) Historical copy (FBA-B 00695, © Frobenius Institute); D) Redrawing by author from C.



Nyambavu Farm, Headlands. A) Photograph (Photographed by Justine Wintjes in Wingfield *et al.* 2020: 74 fig. 6.9); B) Historical copy (Goodall 1959 plate 55); C) Redrawing by author from B.

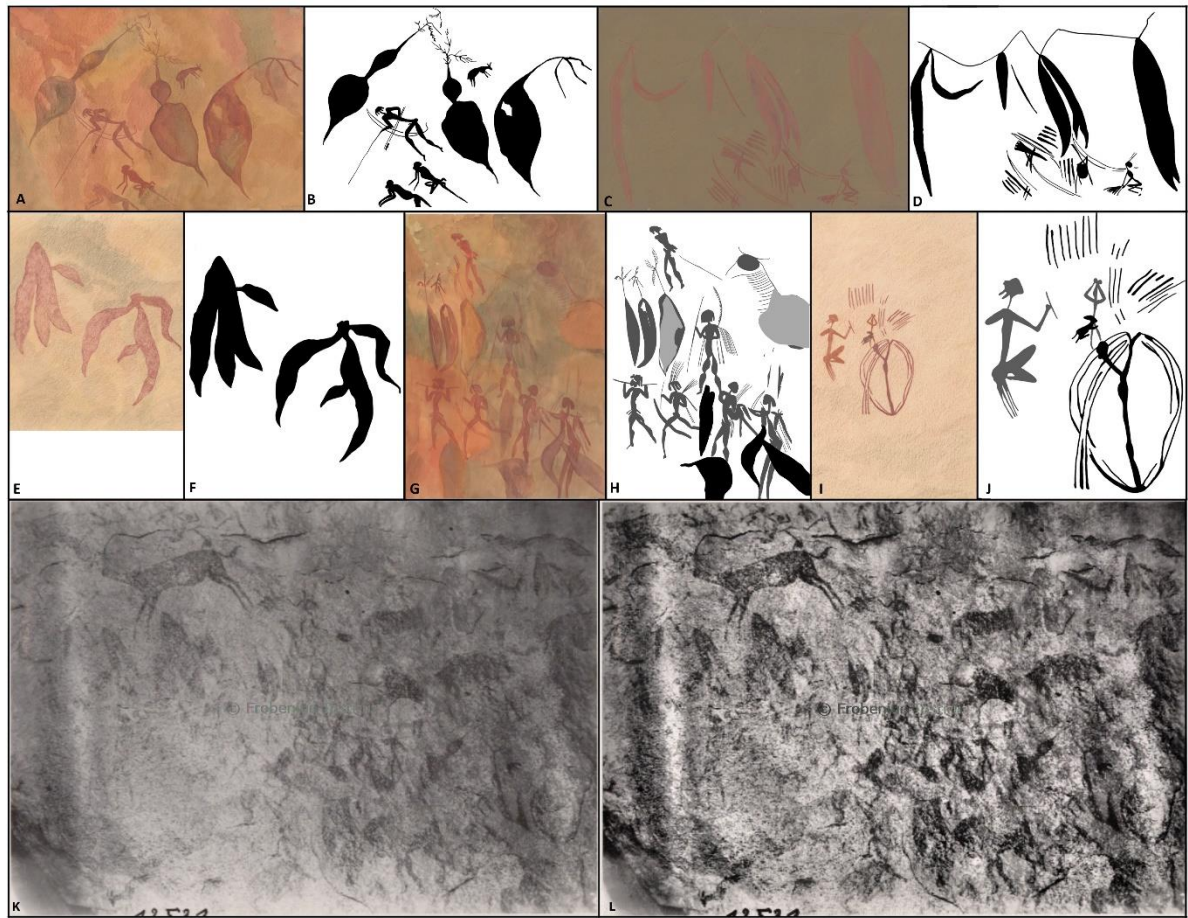


Rusape, Makoni. A) Photograph (FoA 09-12511, © Frobenius Institute); Historical copy (FBA-B 00653, © Frobenius Institute); C) Redrawing by author from B.



Tsengerai 4, Nyanga. A) Photograph (Nhamo 2014: 160, plate 40a); B) Redrawing by author from A.

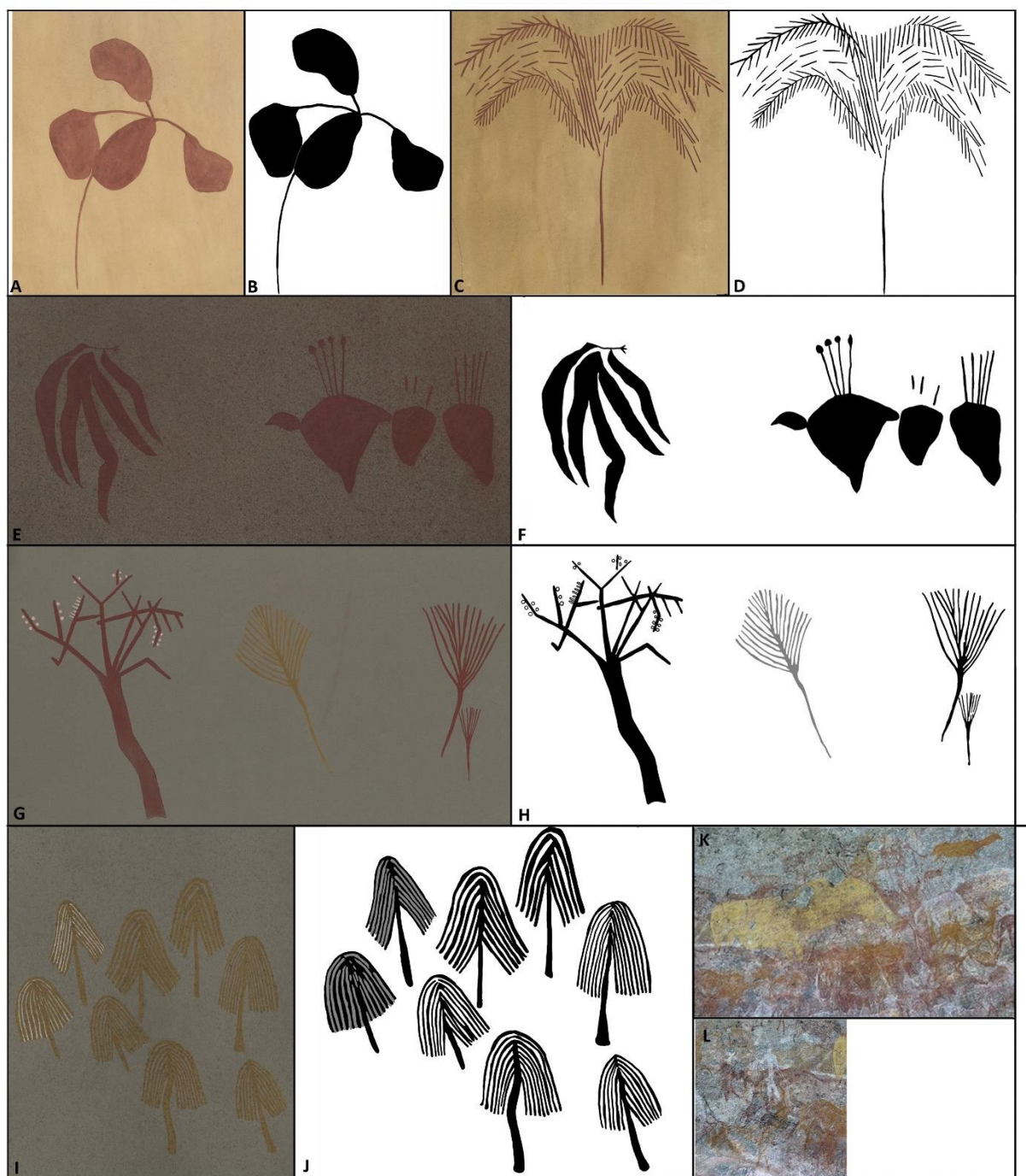
Mashonaland Central



Bindura. A) Historical copy (Frobenius, SARADA. IZI LVF 01 310HC); B) Redrawing by author from A; C) Historical copy (Frobenius, SARADA. IZI LVF 01 309HC); D) Redrawing by author from C; E) Historical copy (Frobenius, SARADA IZI LVF 01 308HC); F) Redrawing by author from E; G) Historical copy (Frobenius, SARADA. IZI LVF 01 064HC); H) Redrawing by author from G; I) Historical copy (Frobenius, SARADA. IZI LVF 01 324HC); J) Redrawing by author from I; K) Photograph (FoA 09-12521, © Frobenius Institute); L) K edited with auto-contrast on Adobe Photoshop.



Cairnsmore Ranch, Umvukwe. A) Photograph (Goodall 1959 fig. 18); B) Redrawing by author from A.



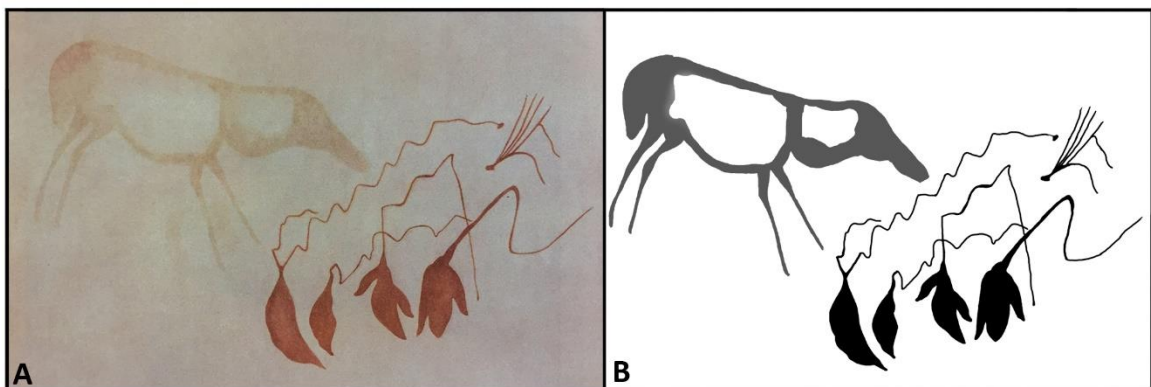
Chikupo Cave. A) Historical copy (FBA-B 01397~b, © Frobenius Institute); B) Redrawing by author from A; C) Historical copy (FBA-B 0140, © Frobenius Institute); D) Redrawing by author from C; E) Historical copy (FBA-B 02313, © Frobenius Institute); F) Redrawing by author from E; G) Historical copy (FBA-B 02315, © Frobenius Institute); H) Redrawing by author from G; I) Historical copy (FBA-B 02316, © Frobenius Institute); J) Redrawing by author from I; K&L) Photographs (Zimfieldguide).



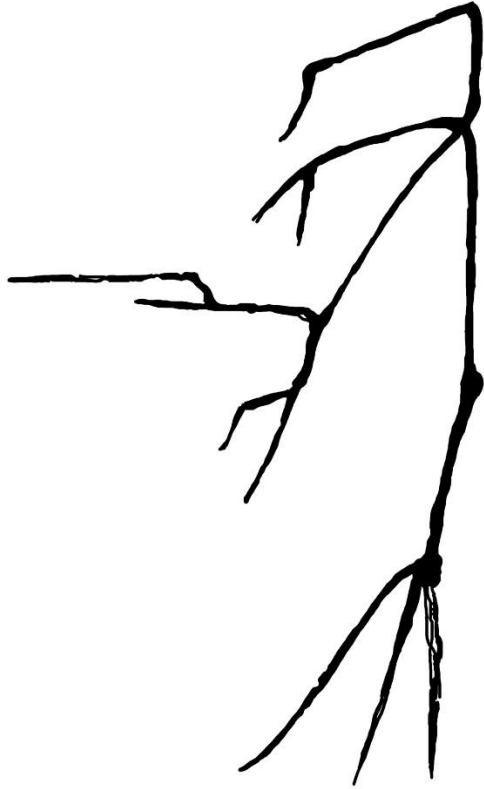
Chikupo *continued*. A-F) Photographs (Nicole Calame-Darbellay).



Guruve. A). Redrawing by author (Garlake 1995: 92 fig. 104), inset a close up of the tree-like motif.



Howick Estate, Mazowe. A) Historical copy (Goodall 1959 plate 43); B) Redrawing by author from A.



Rockwood Farm, Mazowe. Redrawing by author (Cooke 1971 fig. 15).



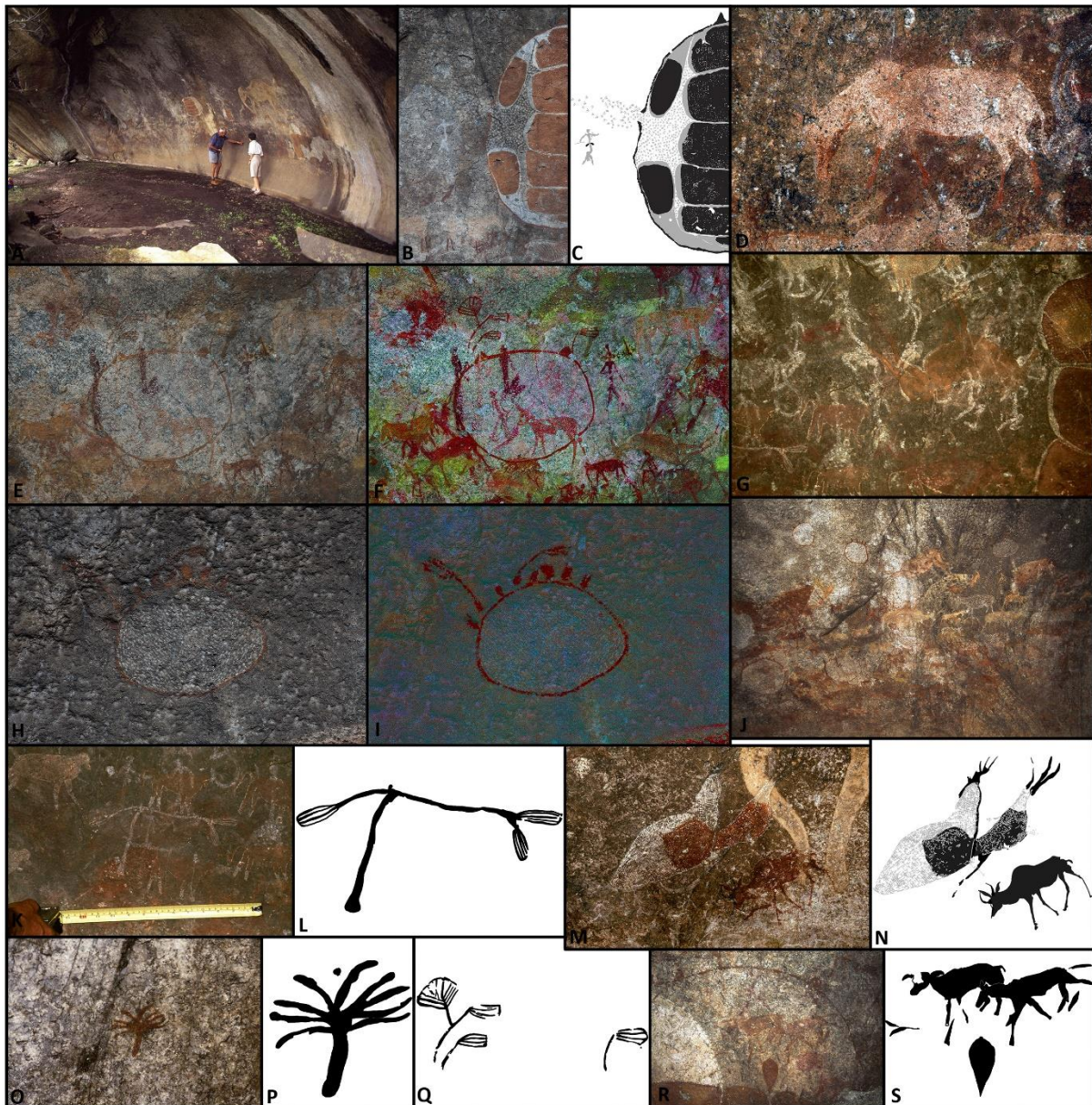
Surtic Farm, Mazowe. A) Photograph (Goodall 1959 fig. 27); B) Redrawing by author from A; C) USOs from B; D) Historical copy (FBA-C 02326, © Frobenius Institute)



Thetford. A,B, D, F, G, I) Photographs (Jeremy Hollmann); C) B edited with DStretch_lab: E) Redrawing by author from B; Redrawing by author of Phytanthropes and USOs from G.

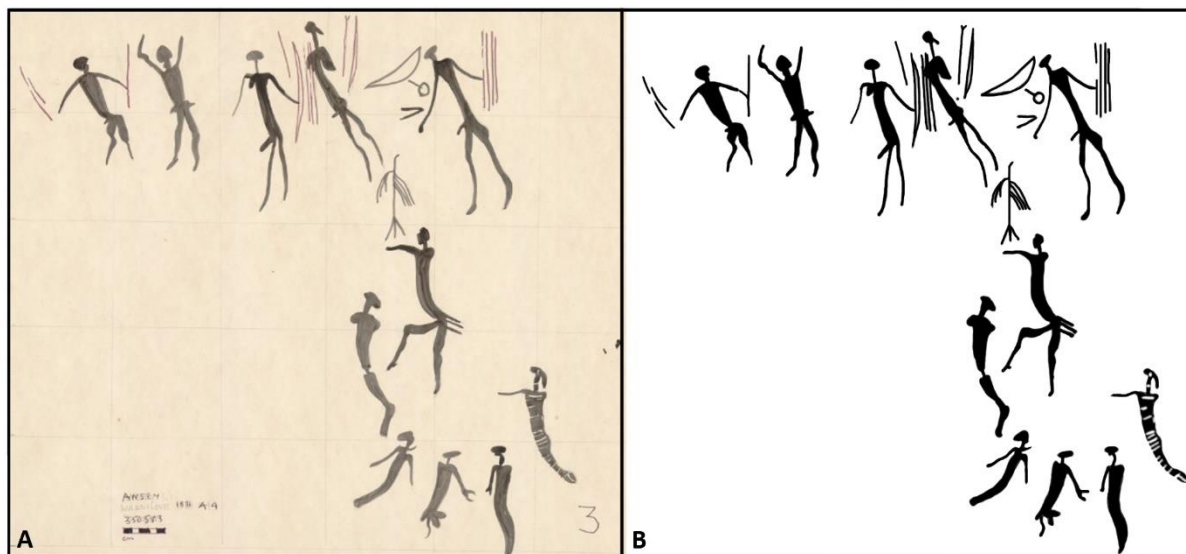


Two Rivers Concession, Mazowe. A) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 104HC); B) Redrawing by author from A.



Zombepata, Gurube. A) Photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); B) Photograph (Jeremy Hollmann); C) Redrawing by author from B; D) Photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); E) Photograph (Jeremy Hollmann); F) E edited with DStretch_yrd; G) Photograph (Jeremy Hollmann); I) H edited with DStretch_lre; J) Photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); K) Photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); L) Redrawing by author from K; M) Photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); N) Redrawing by author from M; O) Photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); P) Redrawing by author from O; Q) Redrawing by author from photograph supplied by Jeremy Hollmann; R) Photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); S) Redrawing by author from R.

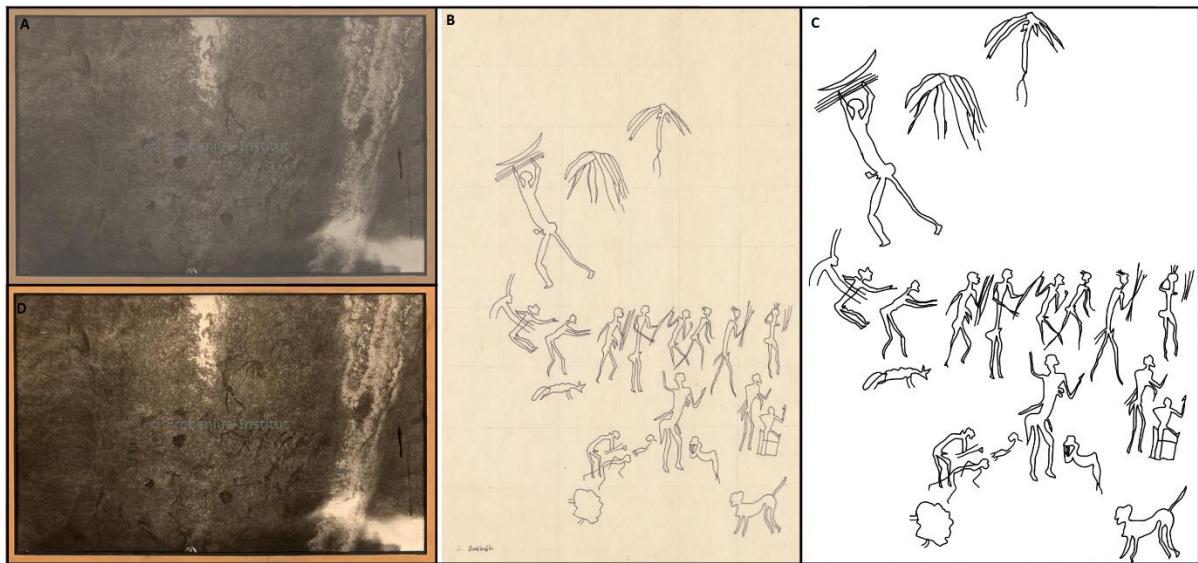
Mashonaland East



Ansey, Marondera. A) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 27HC); B) Redrawing by author from A.



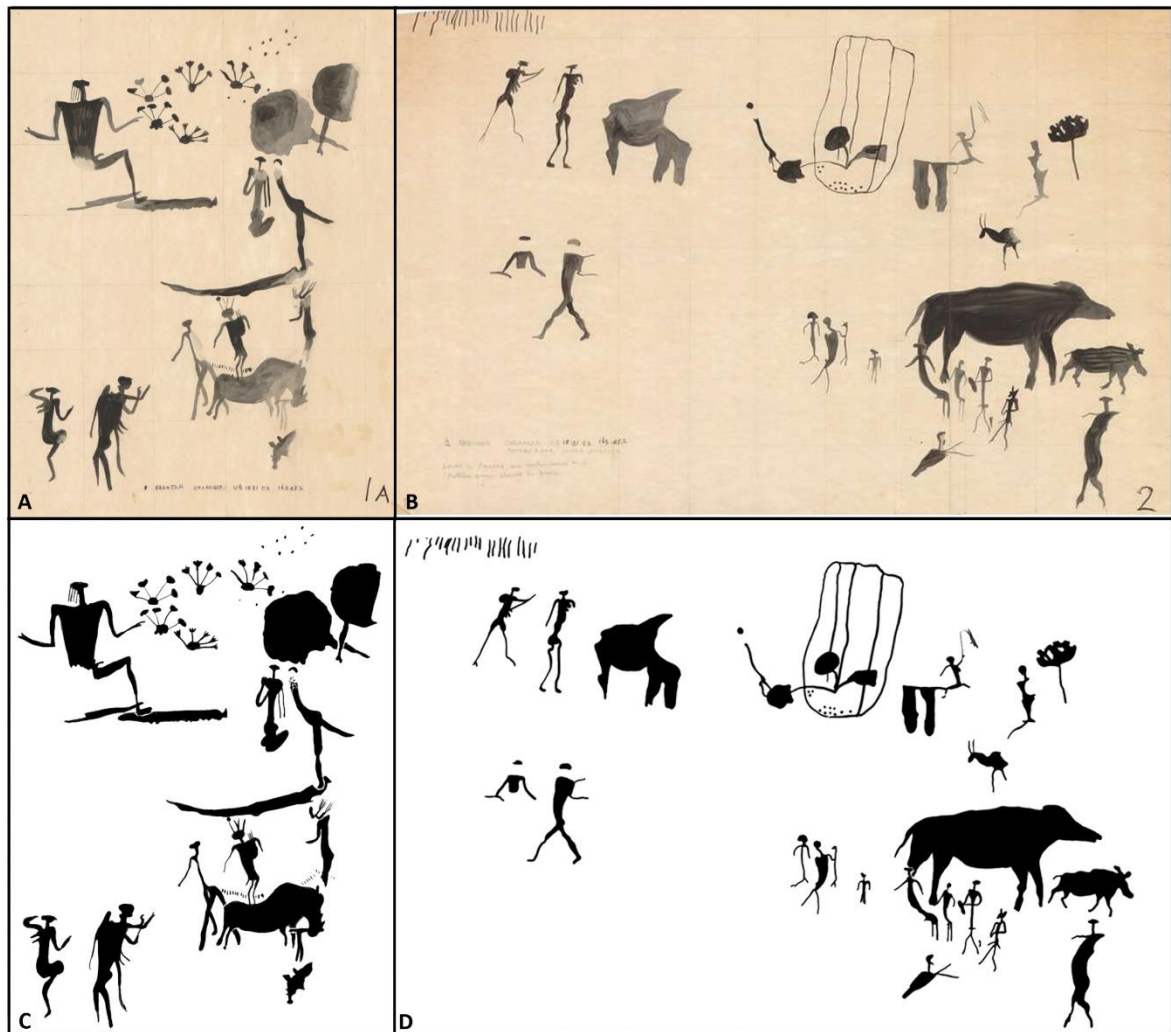
Arlington, Murehwa. A) Photograph (SARADA. SMT ZIM ARL1 2); B) Historical copy (Goodall 1959: 92 plate 50); C) Photograph (SARADA. SMT ZIM ARL1 2 cropped section); D) Redrawing (Garlake 1995: 96 fig. 112); E) Photograph (SARADA SMT ZIM ARL1 3).



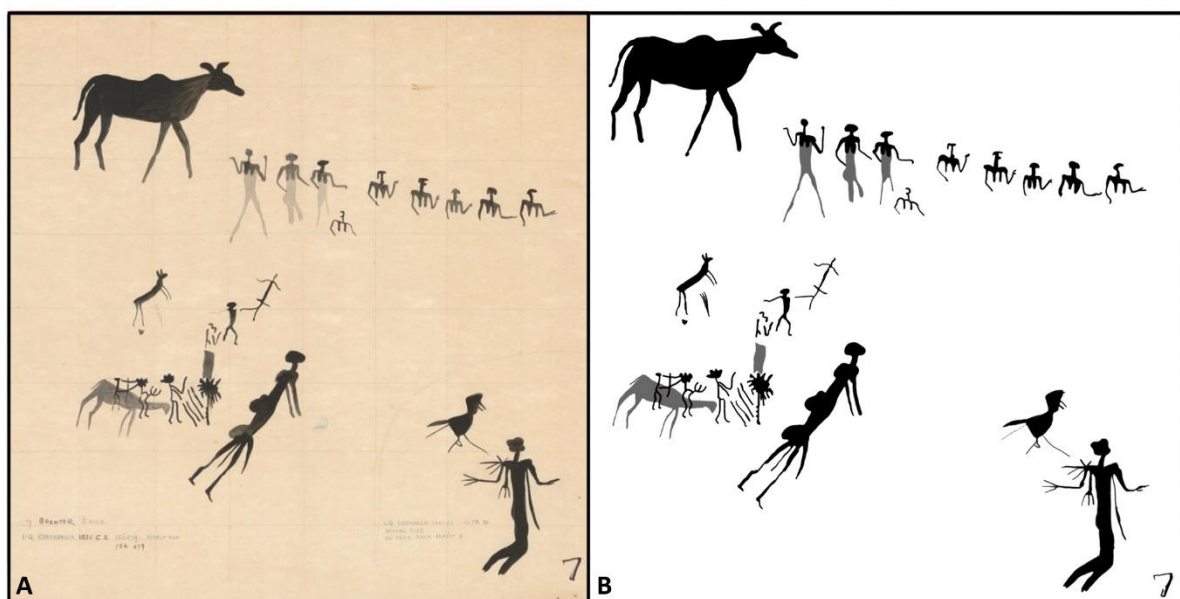
Budleigh, Marondera. A) Photograph (FBA-B 01664~b, © Frobenius Institute); B) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 203HC); C) Redrawing by author from B); D) A edited with Adobe Photoshop auto-contrast.



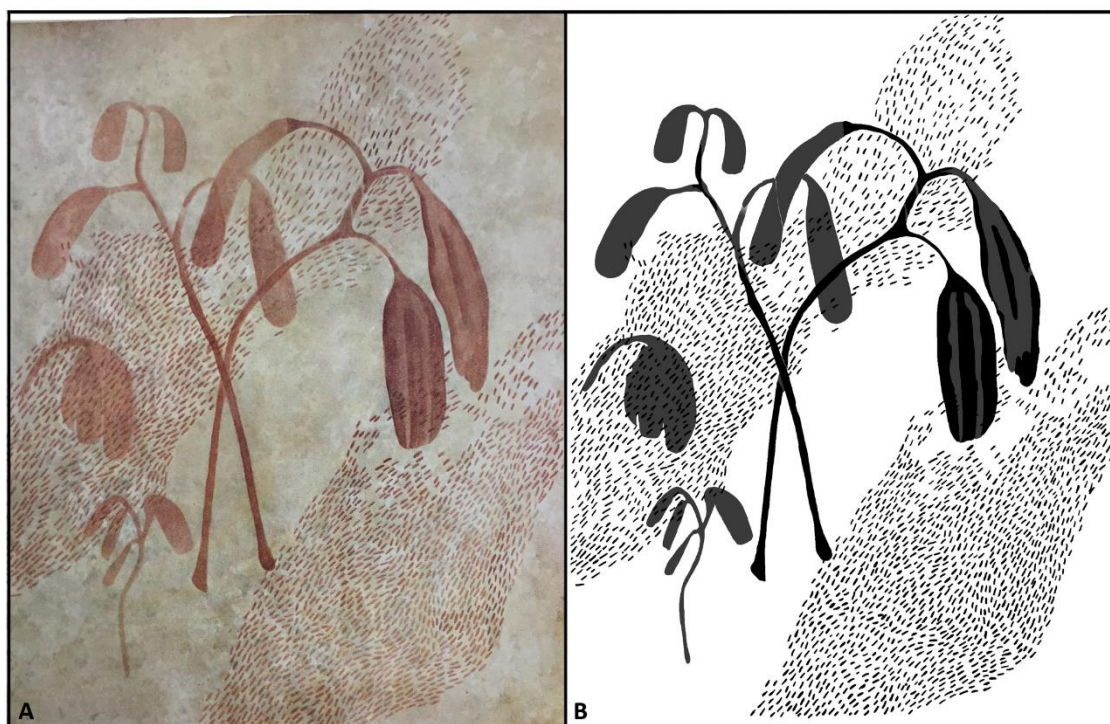
Beta, Musami. A) Historical copy (Goodall 1959 plate 93); B) Redrawing by author from A; C) Historical copy (FBA-B 00700, © Frobenius Institute).



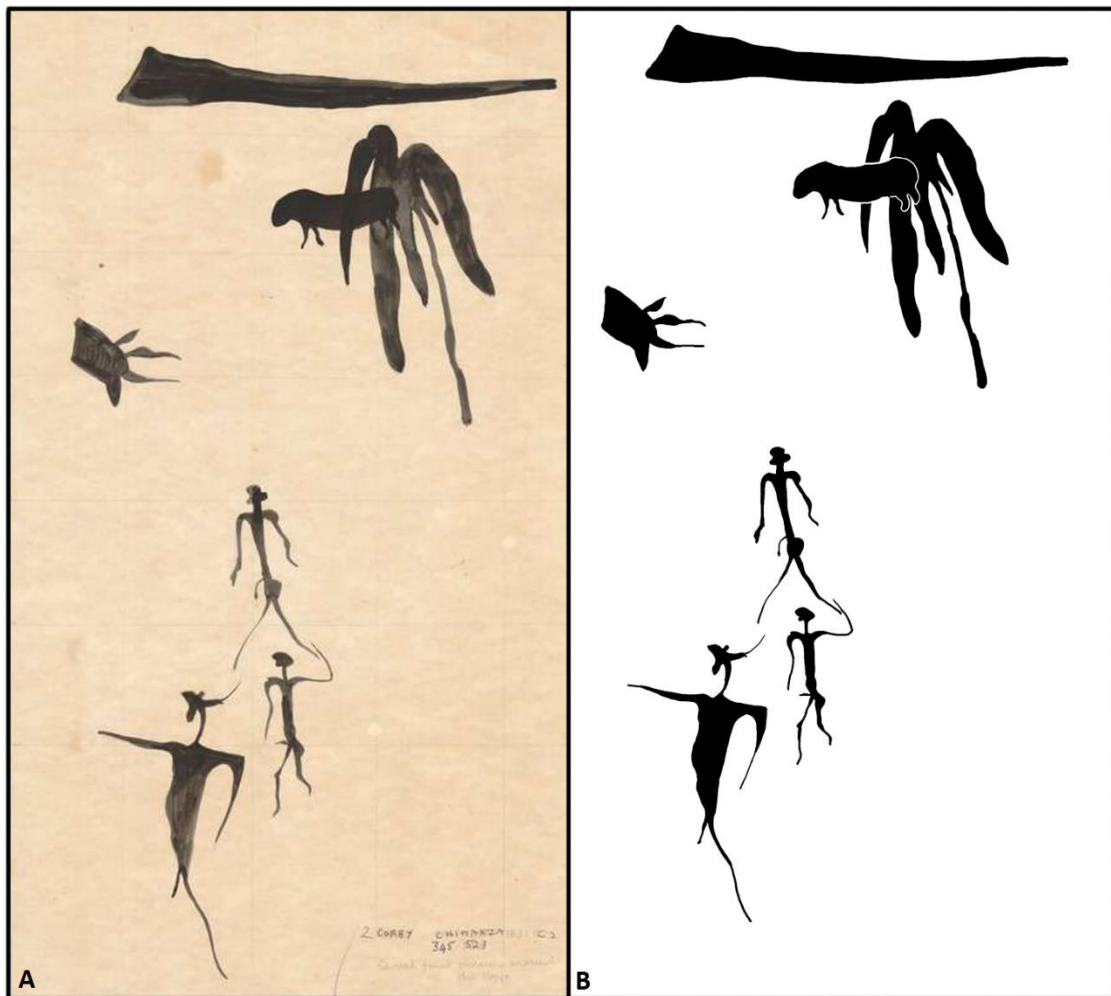
Brentor 1, Rundu. A) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 81HC); B) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 84HC); C) Redrawing by author from A; D) Redrawing by author from B.



Brentor 10, Rundu. A) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 86HC); B) Redrawing by author from A.



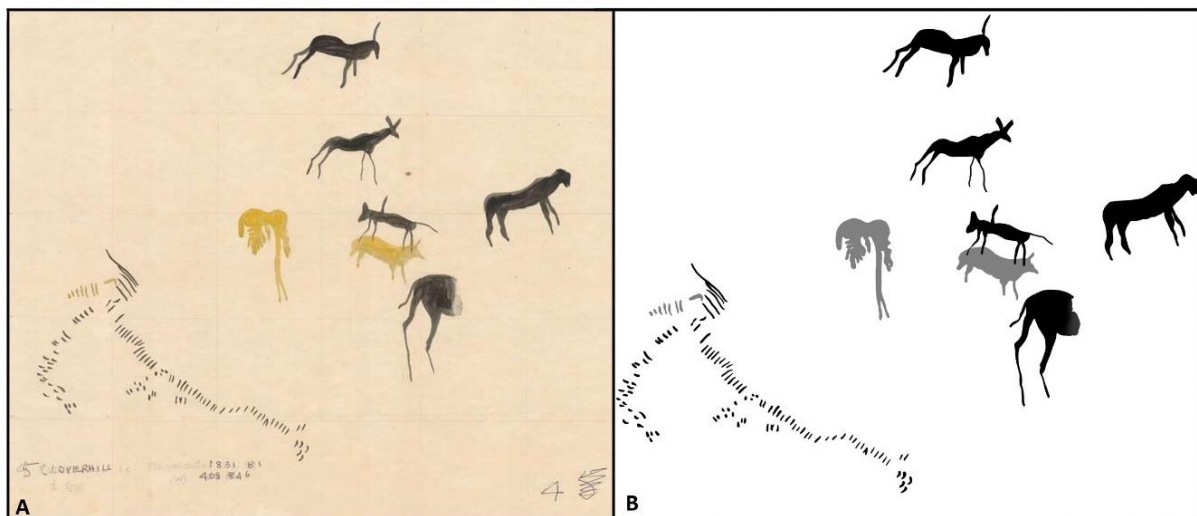
Bonn Farm, Murehwa. A) Historical copy (Goodall 1959 plate 36); B) Redrawing by author from A.



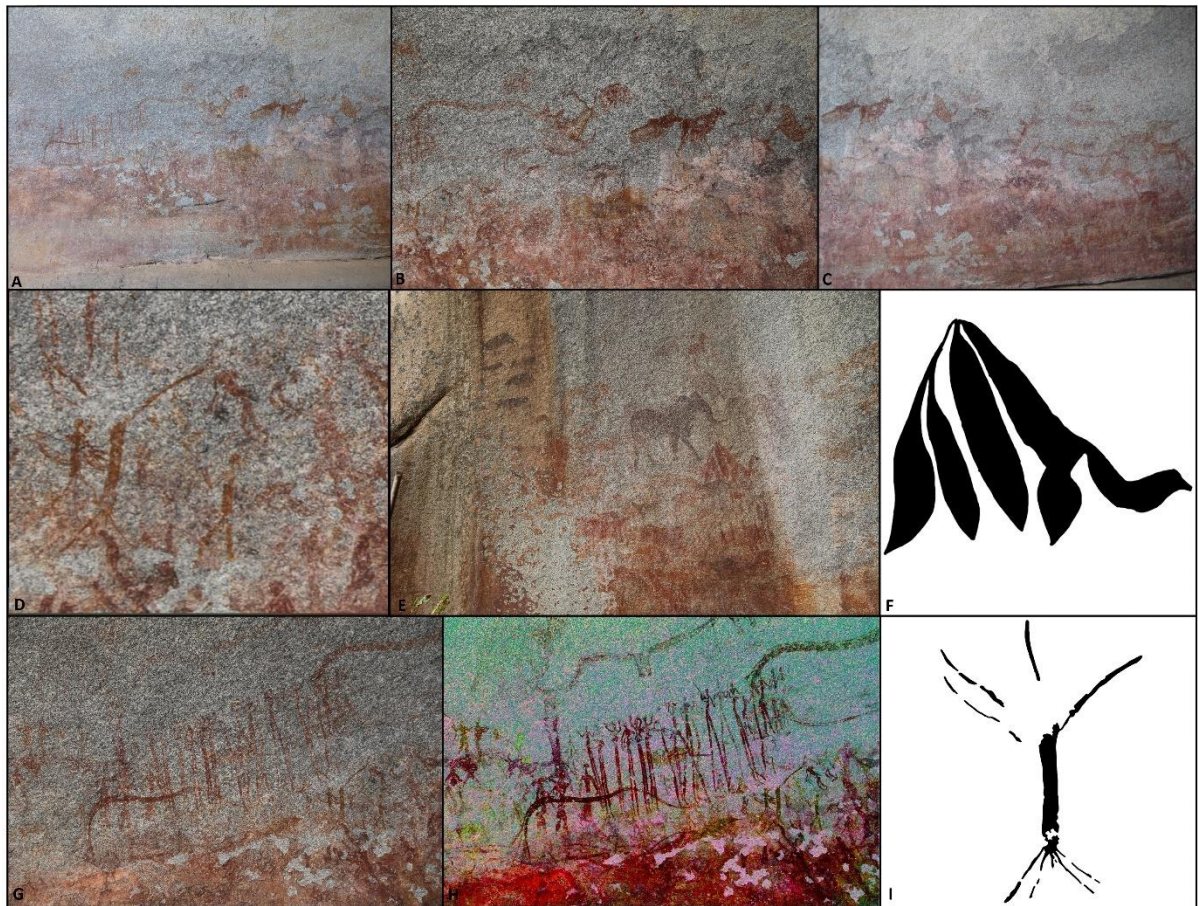
Corby 2, Wedza. A) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 153HC); B) Redrawing by author from A.



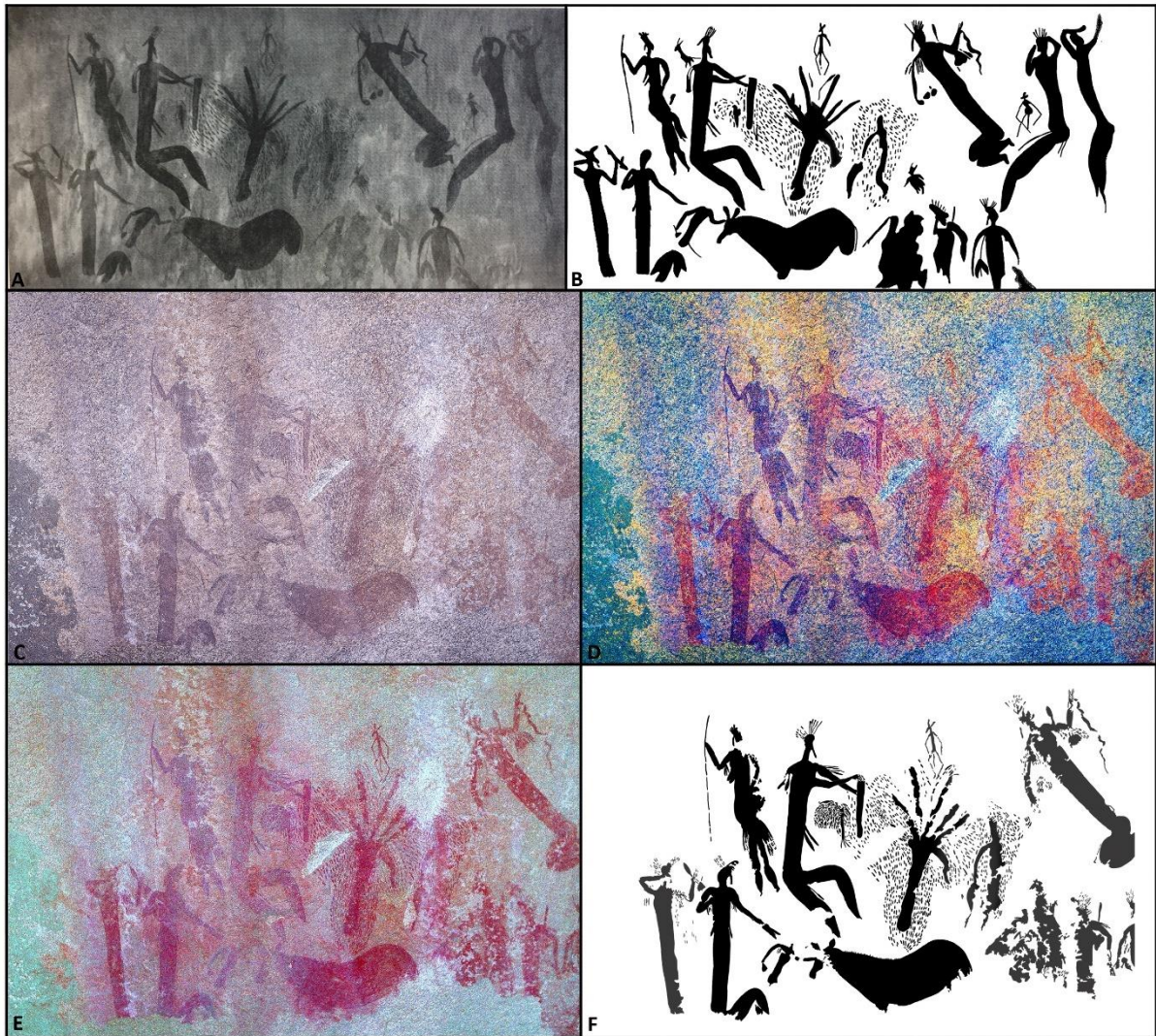
Charewa, Mutoko. A) Photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); Photograph (Frank Bordas); C) Redrawing by author of USO from A; D-F) Photographs (Frank Bordas).



Cloverhill 1 Marondera. A) Photograph (Corona Thornycroft, SARADA. RARI CT 01 131HC); B) Redrawing by author from A.



Domboshawa, Goromonzi 1. A -E) Photographs (Nicole Calame-Darbellay); F) Redrawing by author from from photograph supplied by Nicole Calame-Darbellay; G) Photograph (Nicole Calame-Darbellay); H) G edited with DStretch_crgb; I) Redrawing by author from D.



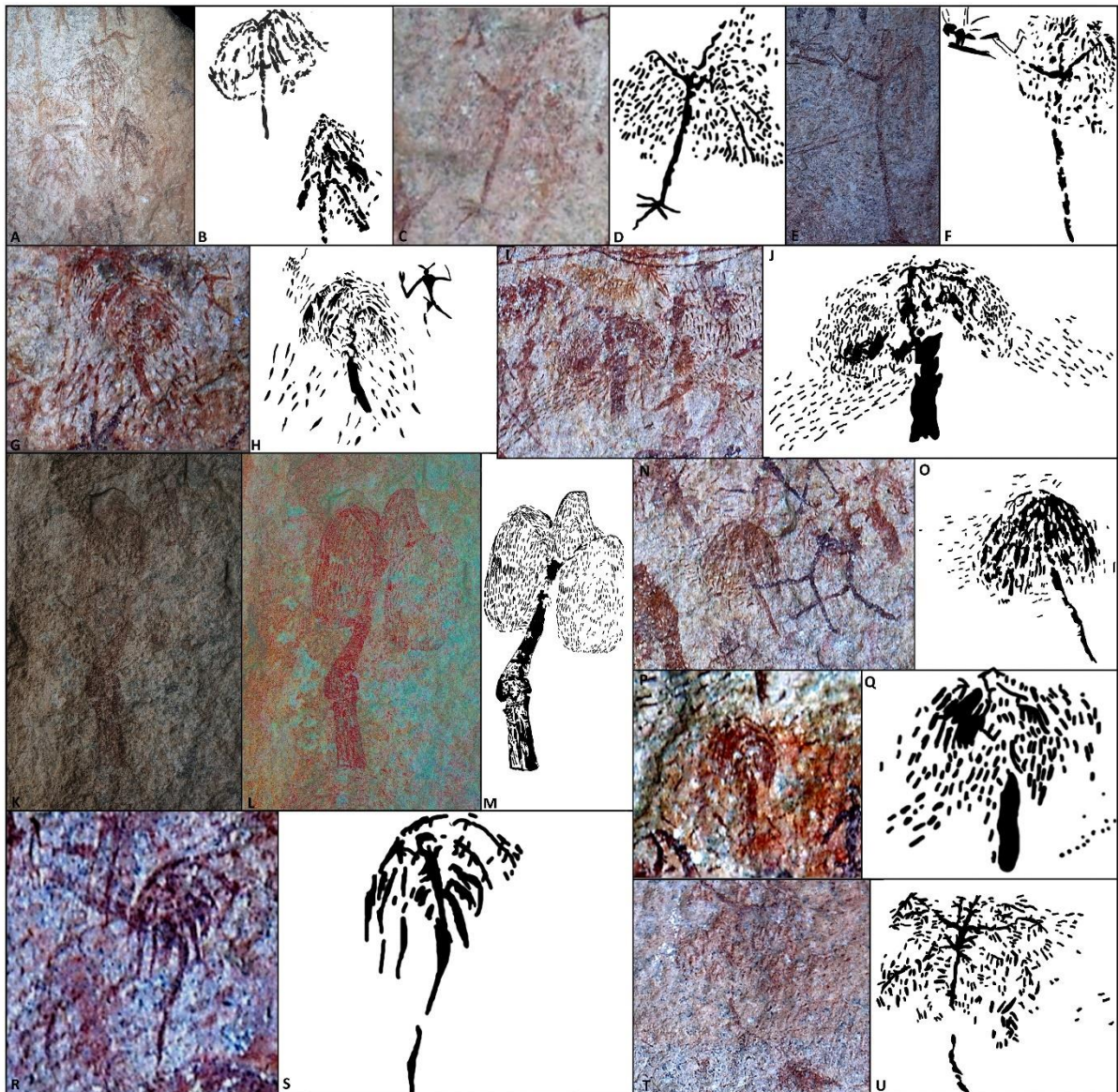
Domboshawa, Goromonzi 2. A) Historical copy (Goodall 1959 fig. 30); B) Redrawing by author from A; C) Photograph (SARADA. NASMUS ZIM DOB2 10); D) C edited with DStretch_lds; E) C edited with DStretch_yrd; F) Redrawing by author from C.



Echo Farm, Goromonzi. A) Historical copy (FBA-B 02310, © Frobenius Institute); B) Redrawing by author from A; C) Historical copy (FBA-B 02318, © Frobenius Institute); D) Redrawing by author from C.



Eldorado Farm, Macheke, Murehwa. A) Historical copy (Frobenius, SARADA. IZI LVF 01 116HC); B) Redrawing by author from A; C) Historical copy (FBA-B 00923, © Frobenius Institute); D) Redrawing by author from C.



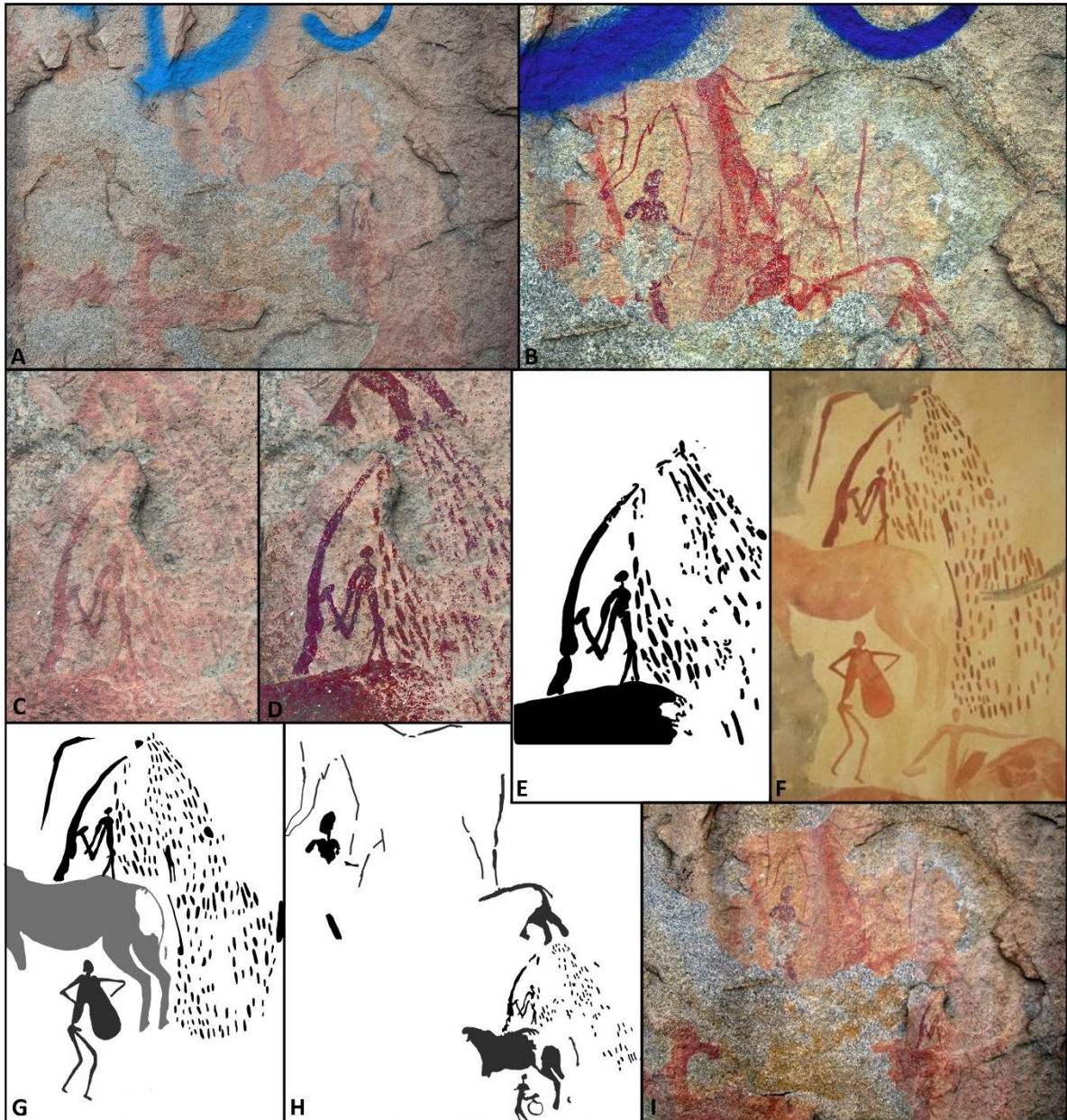
Glen Norah Farm 1. A) Photograph (SARADA. SMT ZIM GNF1 5); B) Redrawing by author from A; C) Photograph (SARADA); D) Redrawing by author from C; E) Photograph (SARADA. SMT ZIM GNF1 6); F) Redrawing by author from E; G) Photograph (SARADA. SMT ZIM GNF1 9); H) Redrawing by author from G; I) Photograph (SARADA. SMT ZIM GNF1 9); J) Redrawing by author from I; K) Photograph (Jeremy Hollmann); L) K edited with DStretch_lre; M) Redrawing by author from K; N) Photograph (SARADA. SMT ZIM GNF1 9); O) Redrawing by author from N; P) Photograph (SARADA. SMT ZIM GNF1 9); Q) Redrawing by author from P; R) Photograph (SARADA. SMT ZIM GNF1 8); S) Redrawing by author from R; T) Photograph (SARADA. SMT ZIM GNF1 7); Redrawing by author from U.



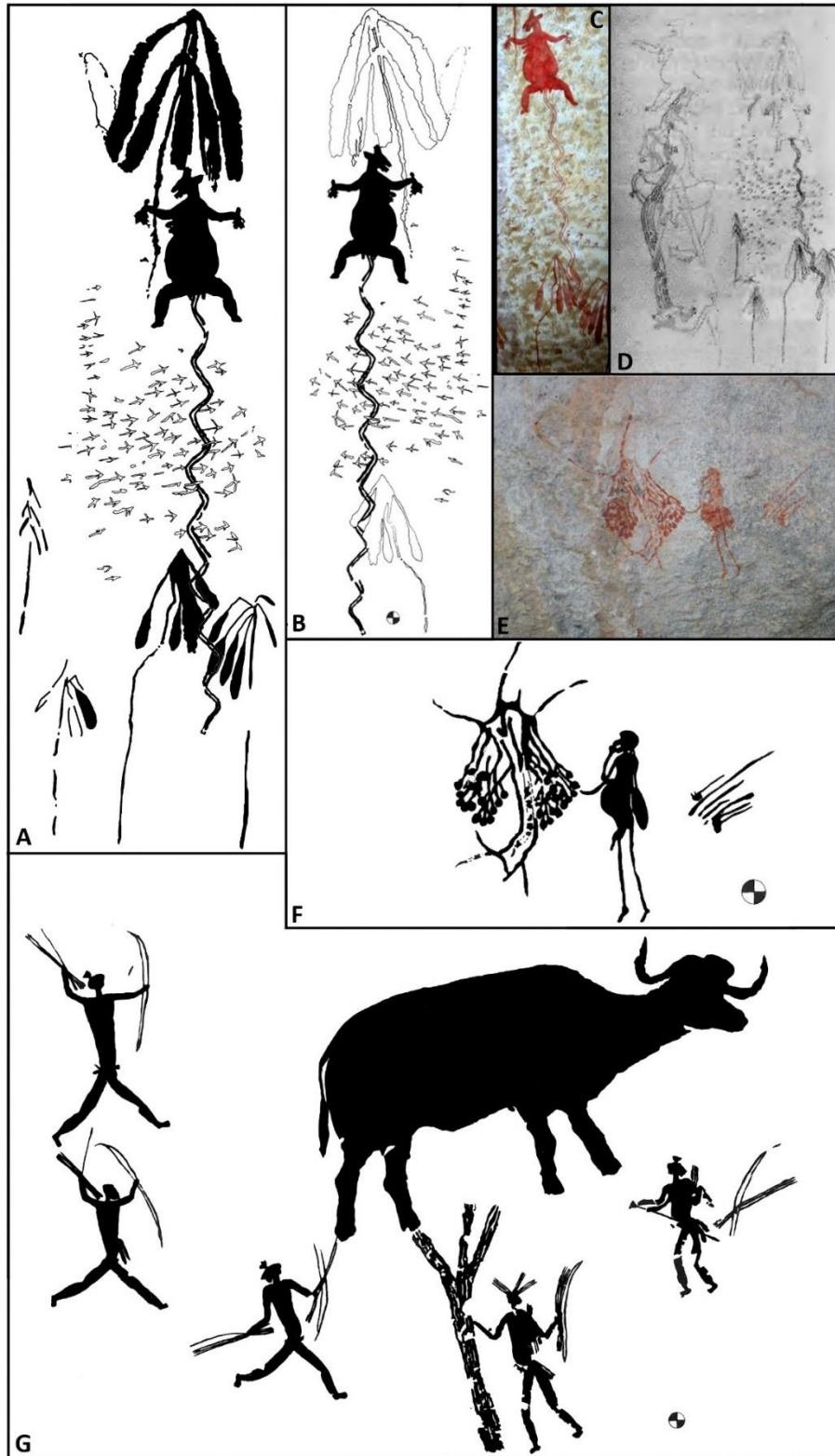
Glen Norah Farm 1 *continued*. Redrawing by author from photograph supplied by Jeremy Hollmann.
Background opacity 50%.



Glen Norah Farm 2. A) Photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); B) Historical copy (Goodall 1959 plate 48); C) Redrawing by author from B; D) Photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); E) Historical copy (Goodall 1959 plate 49); F) Redrawing by author from E; G & H) Photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); I) H edited with Adobe Photoshop auto-contrast.



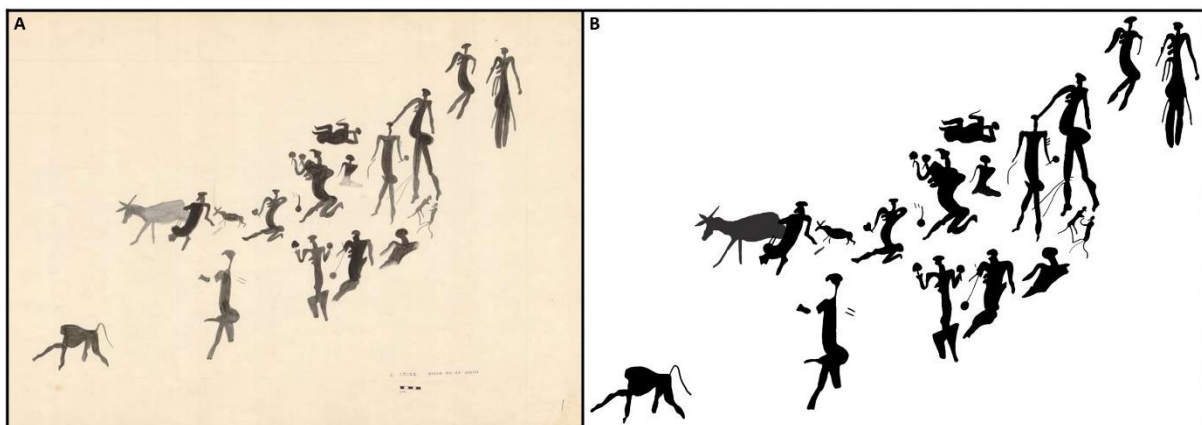
Glen Norah Farm 3. A) Photograph (Jeremy Hollmann); B) A edited with ImageJ auto-balance; C) Photograph (Jeremy Hollmann); D) C edited with ImageJ auto-balance; E) Redrawing by author from C; F) Historical copy (Goodall in Nhamo 2014: 243 fig. 92c); G) Redrawing by author from F; H) Redrawing by author from composite photograph of A and I; I) Photograph (Jeremy Hollmann).



Colours: Black = Red, White = White. A) Redrawing by author from composite image of B, C, & D; B) Redrawing (Garlake 1995: 88 fig. 99); C) Historical copy (Goodall in Nhamo 2014: 313); D) First rough historical copy (Goodall in Woodhouse 1989 fig. 11); E) Photograph (Hubbard 2013: 17 fig. 3); F) Redrawing (Garlake 1995: 60 fig. 64); G) Redrawing (Garlake 1995: 129 fig. 153).



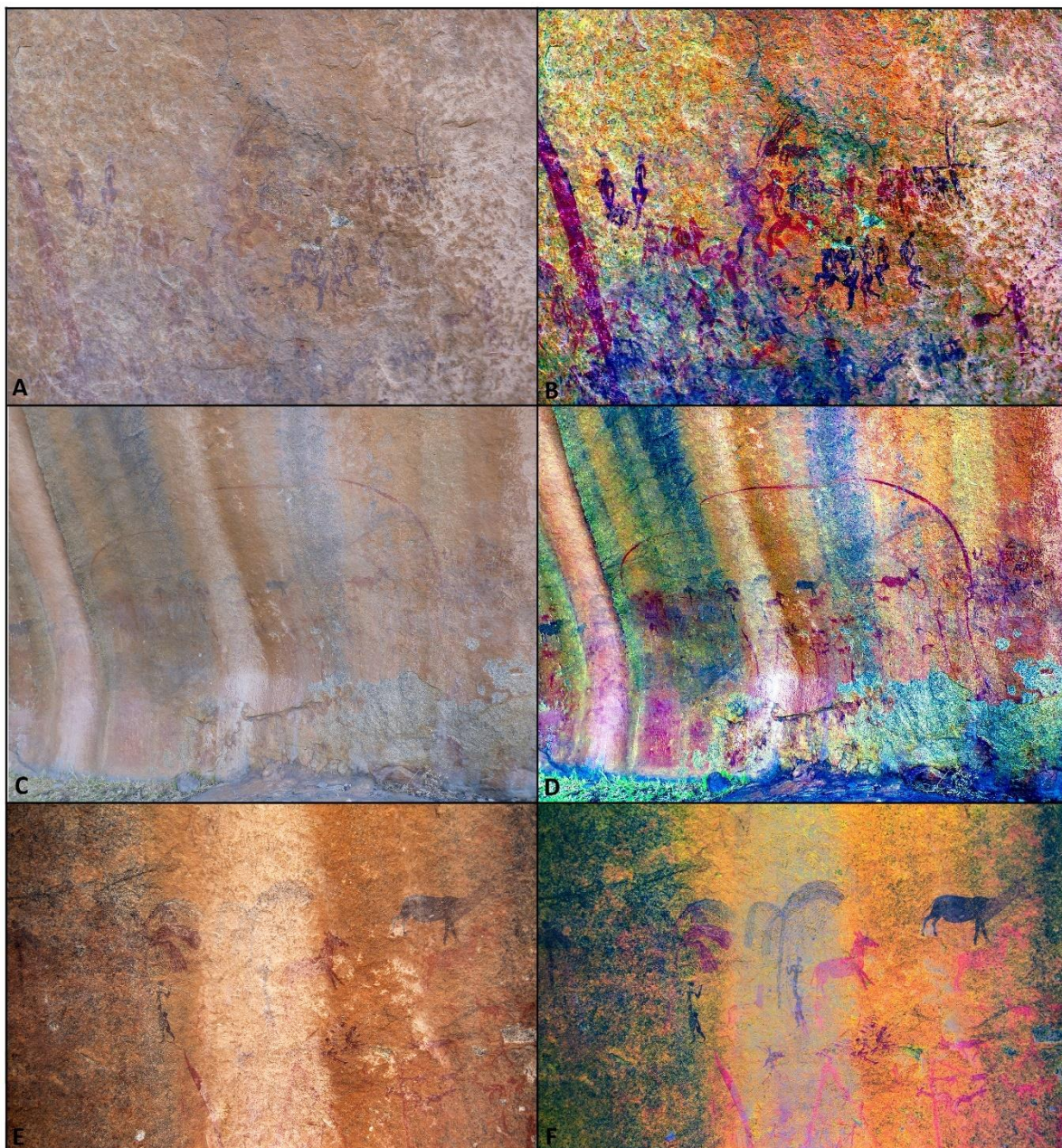
Gurure, Mutoko. A) Historical copy (Goodall in Nhamo 2014: 315); B) Redrawing by author from A.



Imire, Wedza. A) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 119HC); B) Redrawing by author from A.



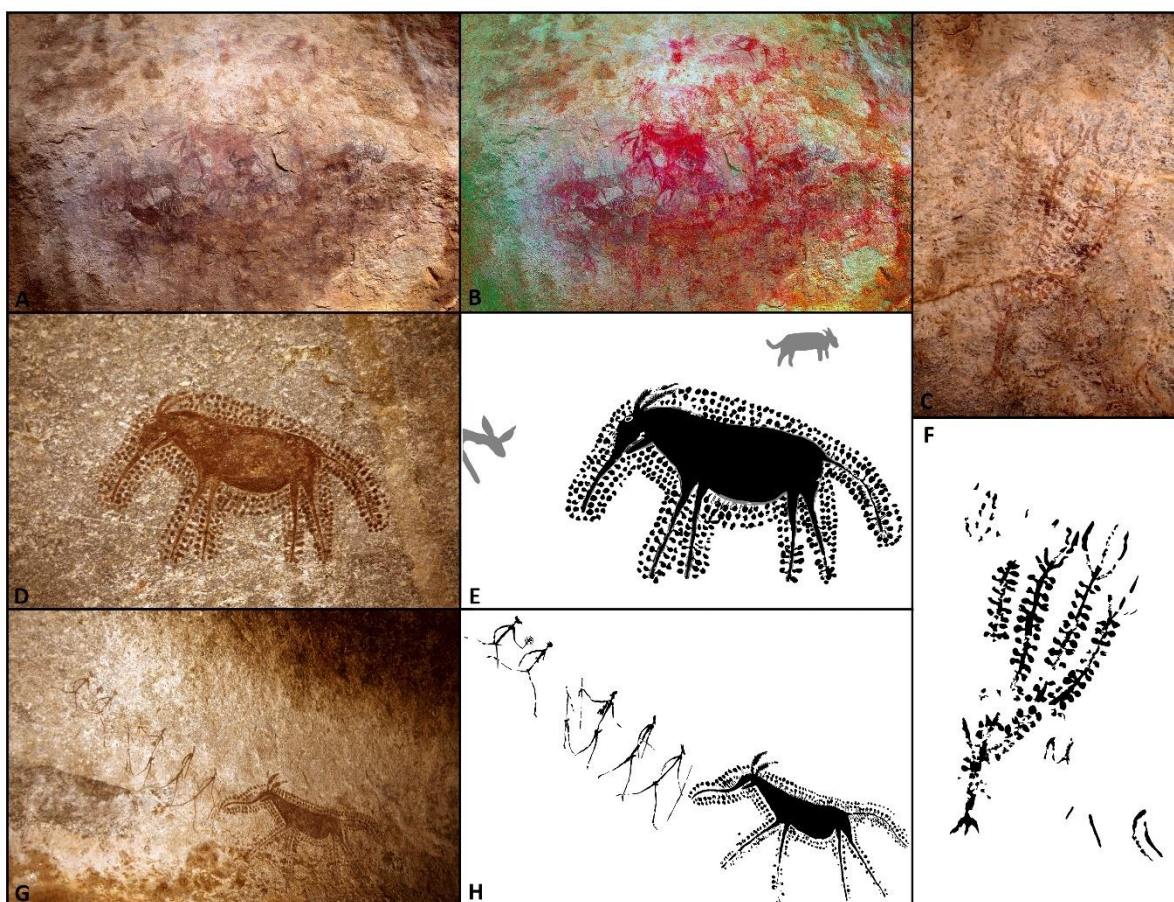
Ngomakurira 1, Chinamora. A) Photograph (Fanny Schertzer CC BY 3.0); B) A edited with DStretch_lds; C) Photograph (Fanny Schertzer CC BY 3.0); D) C edited with DStretch_yre; E) Photograph (Fanny Schertzer CC BY 3.0); F) E edited with DStretch_lre.



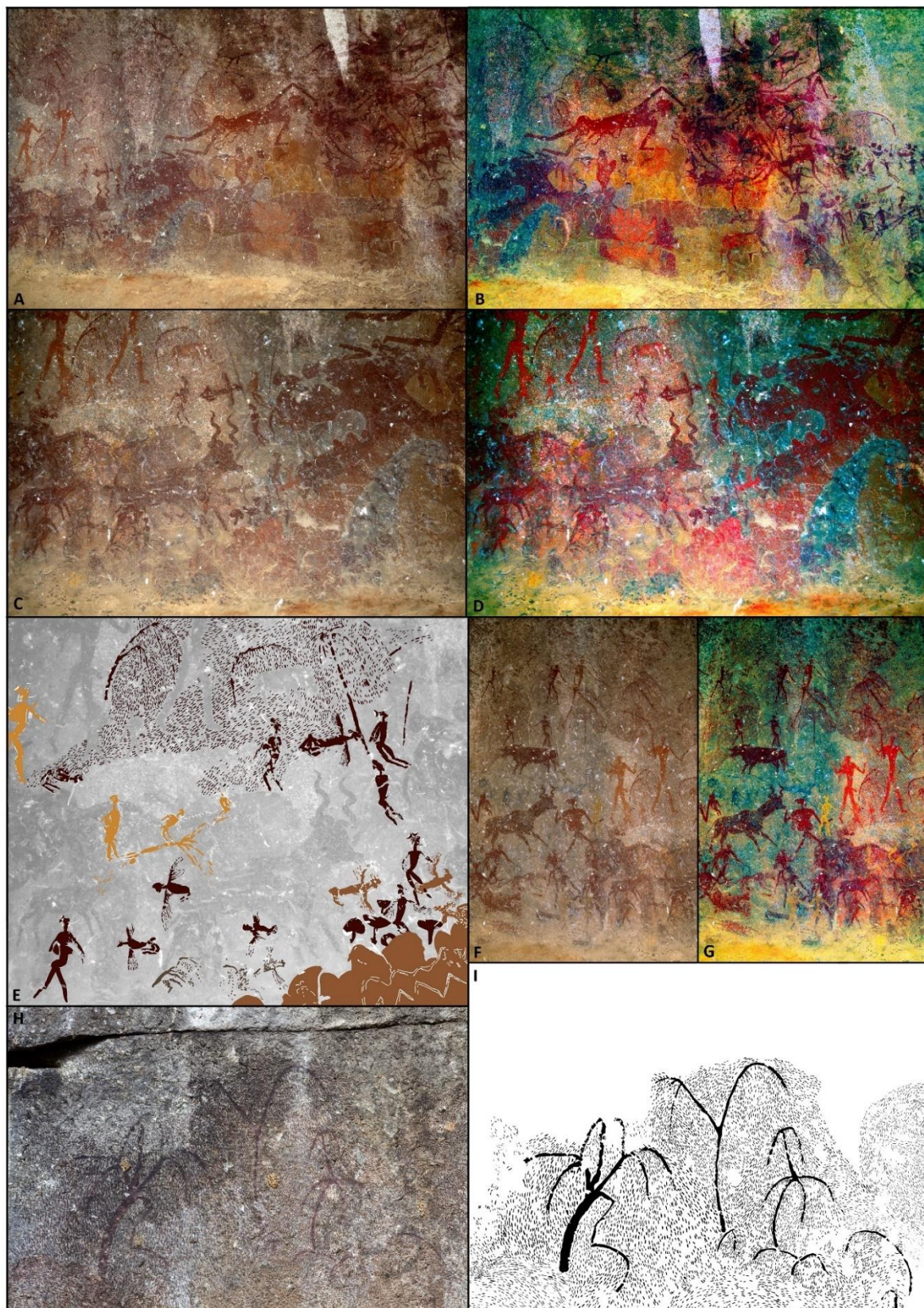
Ngomakurira 1 *continued*. A & C) Photograph (Nicole Calame-Darbellay); B) A edited with DStretch_ac_lds; C) B edited with DStretch_lds; E) Photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); F) E edited with DStretch_ybk.



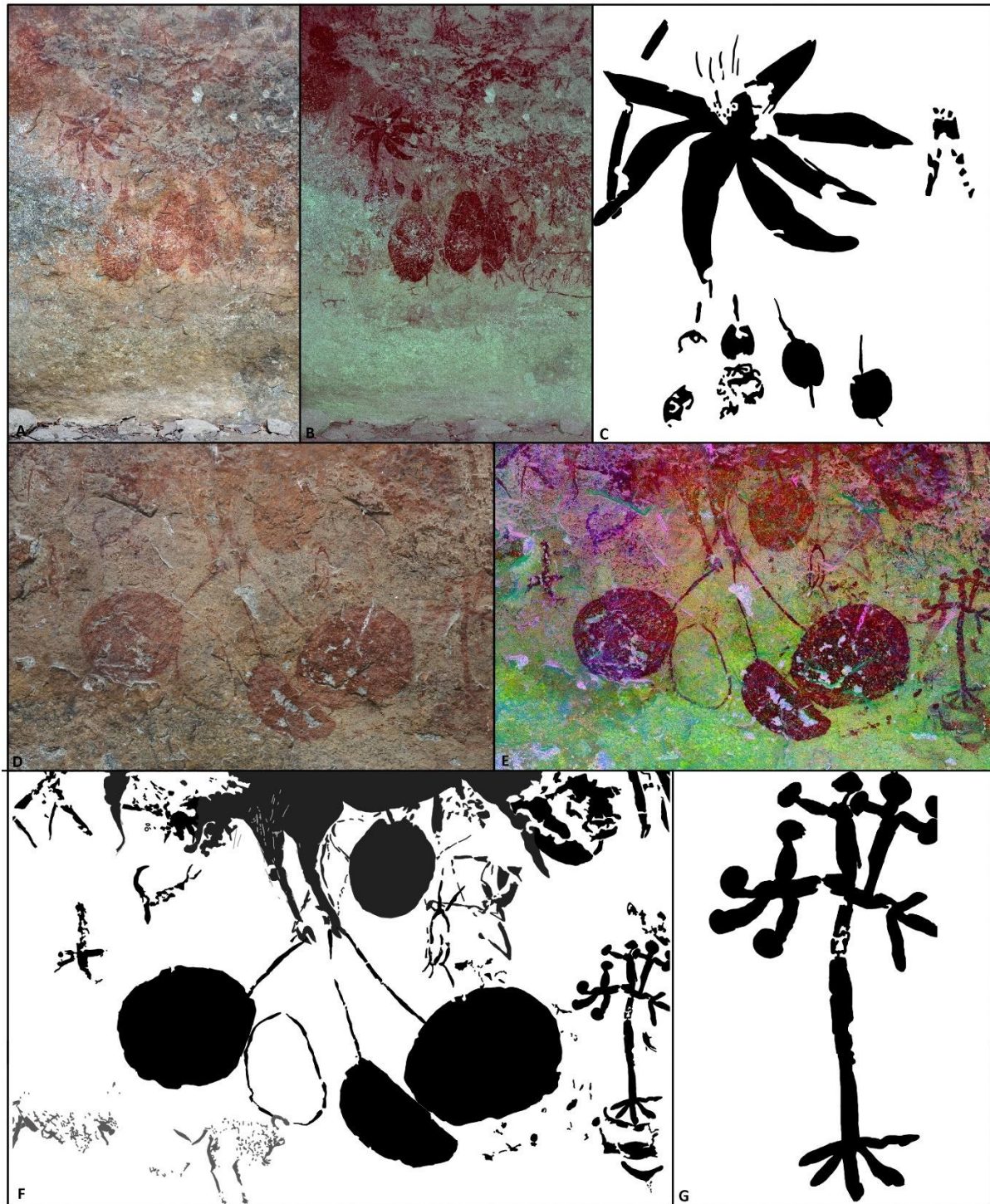
Ngomakurira 1 *continued*. A) Photograph (Nicole Calame-Darbellay); B) A edited with DStretch_ac_ybk; C) Historical copy (Goodall 1959 plate 40); D) Redrawing by author from C; E) Photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); F) Redrawing by author from E.



Ngomakurira 1 *continued*. A, C, D, G) Photographs (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); B) A edited with DStretch_yrd; E) Redrawing by author from D; F) Redrawing by author from C; H) Redrawing by author from G.



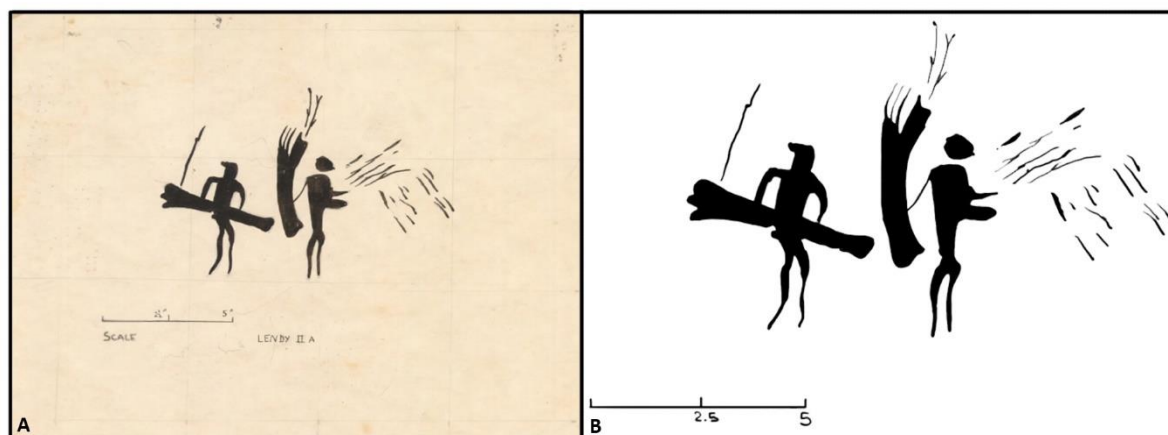
Gambarimwe 1, Mutoko. A,C, F) Photographs (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); B) A edited with DStretch_lds; D) C edited with DStretch_lab; E) Colour enhanced Redrawing by author from C, background rendered black and white at 20% opacity; G) F edited with DStretch_lds_ac; H) Photograph (Jeremy Hollmann); I) Redrawing by author from H.



Gambarimwe 1 *continued*, Mutoko. A) Photograph (Jeremy Hollmann); B) A edited with DStretch_yre; C) Redrawing by author of upper section of A; D) Photograph (Jeremy Hollmann); E) D edited with DStretch_crgb; F) Redrawing by author from D; G) Tree motif isolated from F.



Lendy 1, Marondera. A) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 190HC); B) Redrawing by author from A.



Lendy 2A, Marondera. A) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 191HC); B) Redrawing by author from A.



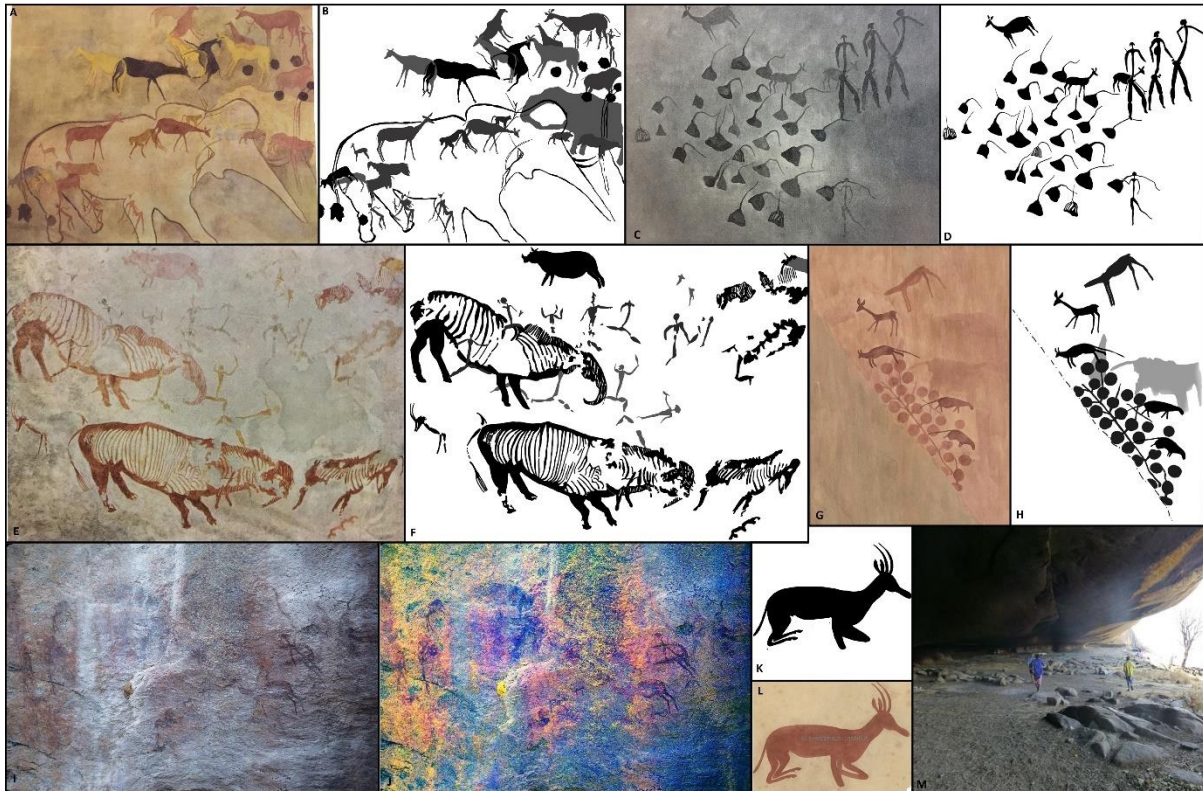
Macheke, Murehwa. A) Photograph (Zimfieldguide); B) Historical copy (Goodall 1959 plate 32); C) Redrawing by author from B; D) Redrawing by author of fig. isolated from B; E) Historical copy (Frobenius, SARADA. IZI LVF 01 274HC); F) Redrawing by author from E.



Madzimudzangara Cave, Mutoko. A & B) Photographs (Zimfieldguide); C) Historical copy (Goodall 1959 plate 44); D) Redrawing by author from C; E) Redrawing (Garlake 1995: 26 fig. 3); F) Isolated figure from E.



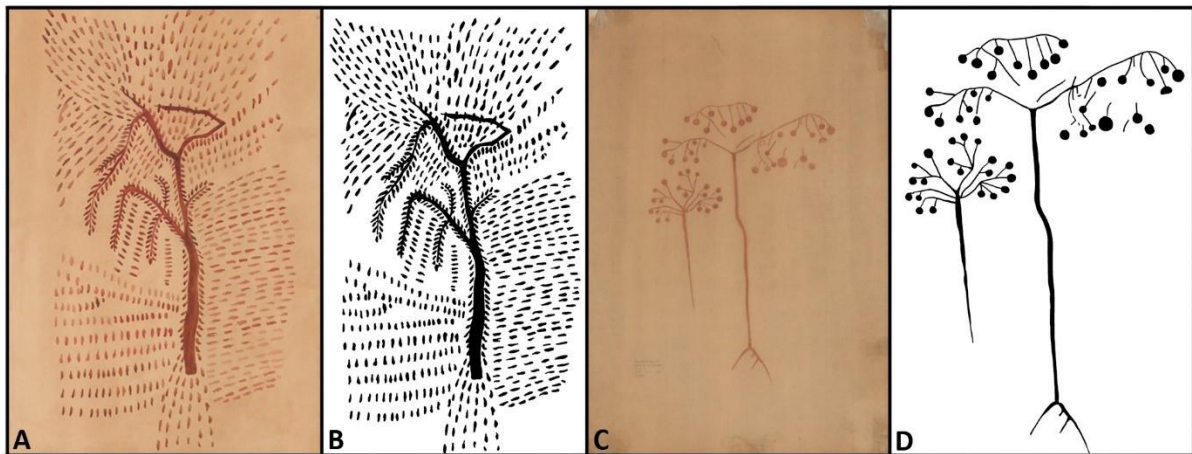
Makaha Road, Mutoko. A) Historical copy (Frobenius, SARADA. IZI LVF 01 323HC); B) Redrawing by author from A/



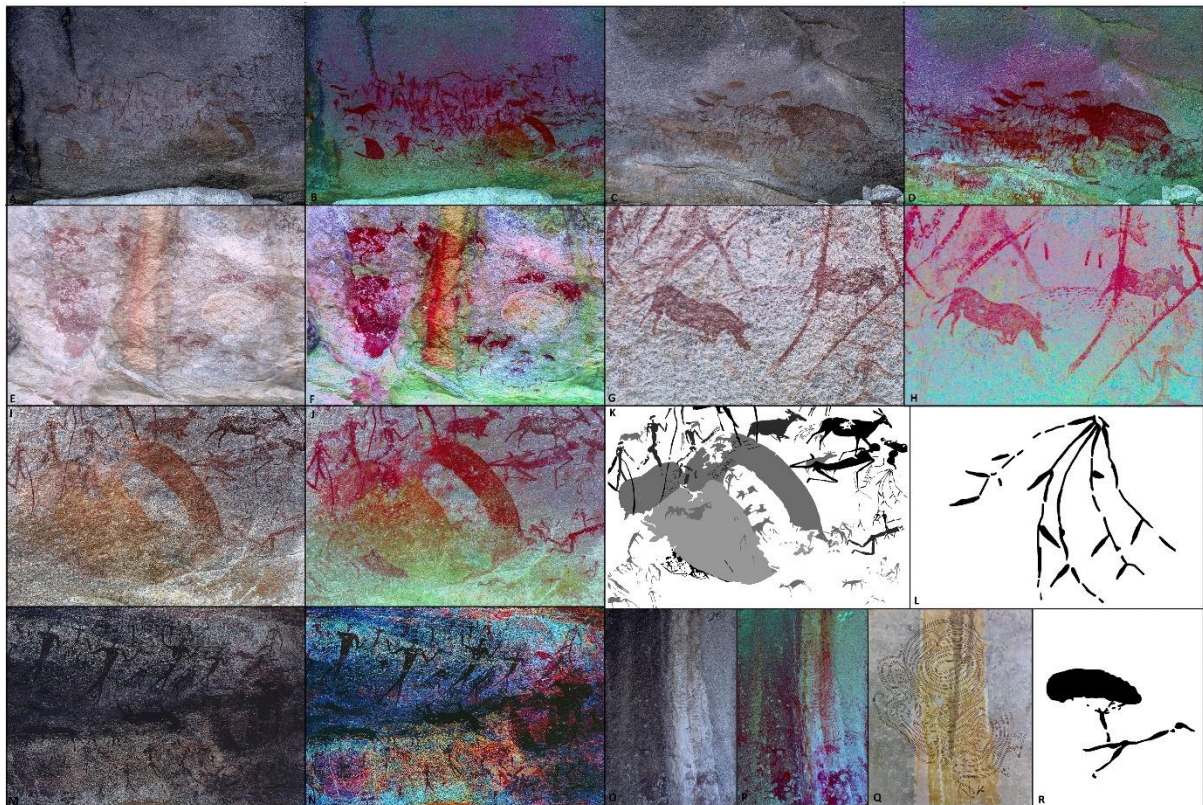
Makumbe Cave, Goromonzi. A) Historical copy (Goodall 1959 plate 3); B) Redrawing by author from A; C) Historical copy (Goodall 1959 fig. 26); D) Redrawing by author from C; E) Historical copy (Goodall 1959 plate 9); F) Redrawing by author from E; G) Historical copy (FBA-B 01396© Frobenius Institute); H) Redrawing by author from G; I) Photograph (Lyle Tatum); J) Redrawing by author from I; K) Redrawing by author from L; L) Historical copy (FBA-B 01394© Frobenius Institute); M) Photograph (Zimfieldguide).



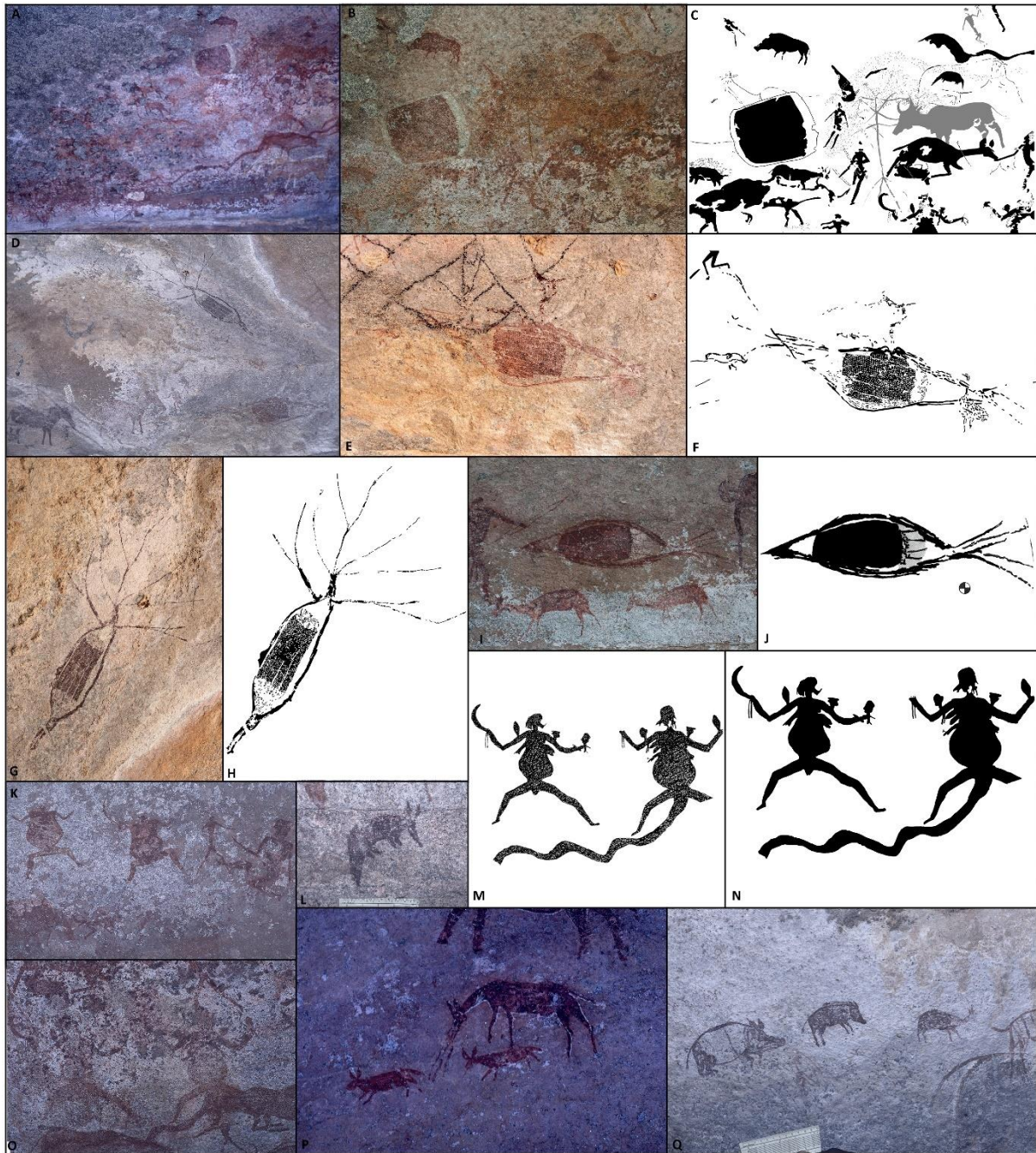
Manyeni Reserve, Chikomba. A) Historical copy (FBA-D2 01627© Frobenius Institute); B) Redrawing by author from A; C) Historical copy (FBA-B 00696, © Frobenius Institute); D) Photograph (FoA 09-12575, © Frobenius Institute); E) Photograph (FoA 09-12576, © Frobenius Institute); F) Historical copy (FBA-D3 01524, © Frobenius Institute); G) Redrawing by author from F; H) Redrawing by author from C.



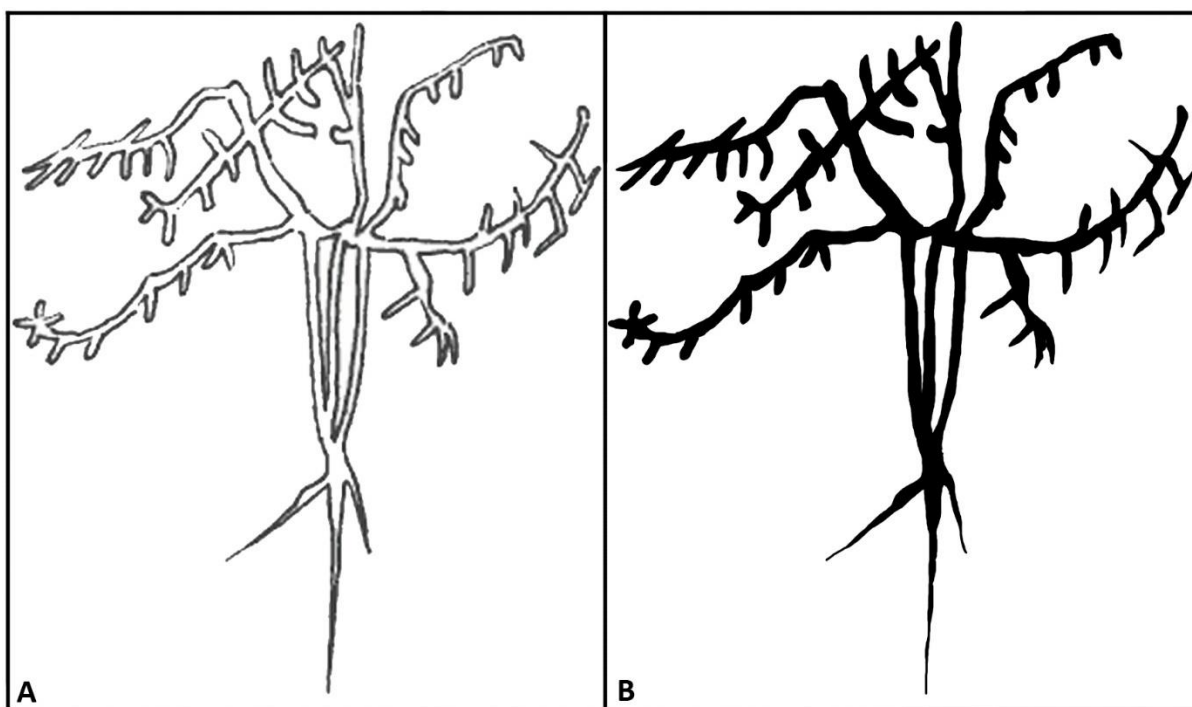
Marondera. A) Historical copy (Frobenius, SARADA IZI LVF 01 325HC); B) Redrawing by author from A; C) Historical copy (Frobenius, SARADA. IZI LVF 01 345HC); D) Redrawing by author from C.



Markwe 1, Wedza. A) Photograph (SARADA. IZI ZIM MAW1 4); B) A edited with DStretch_yrd; C) Photograph (SARADA. IZI ZIM MAW1 5); D) C edited with DStretch_yrd; E) Photograph (SARADA. IZI ZIM MAW1 3); F) E edited with DStretch_yrd; G) Photograph (SARADA. IZI ZIM MAW1 6); H) G edited with DStretch_lre; I) Photograph (SARADA. IZI ZIM MAW1 9); J) I edited with DStretch_yrd; K) Redrawing by author from I; L) Isolated fig. from K; M) Photograph (SARADA. IZI ZIM MAW1 11); N) M edited with DStretch_lab; O) Photograph (SARADA. IZI ZIM MAW1 16); P) O edited with DStretch_yrd; Q) Historical copy (Goodall 1959 plate 59); R) Redrawing by author of isolated figures from A.



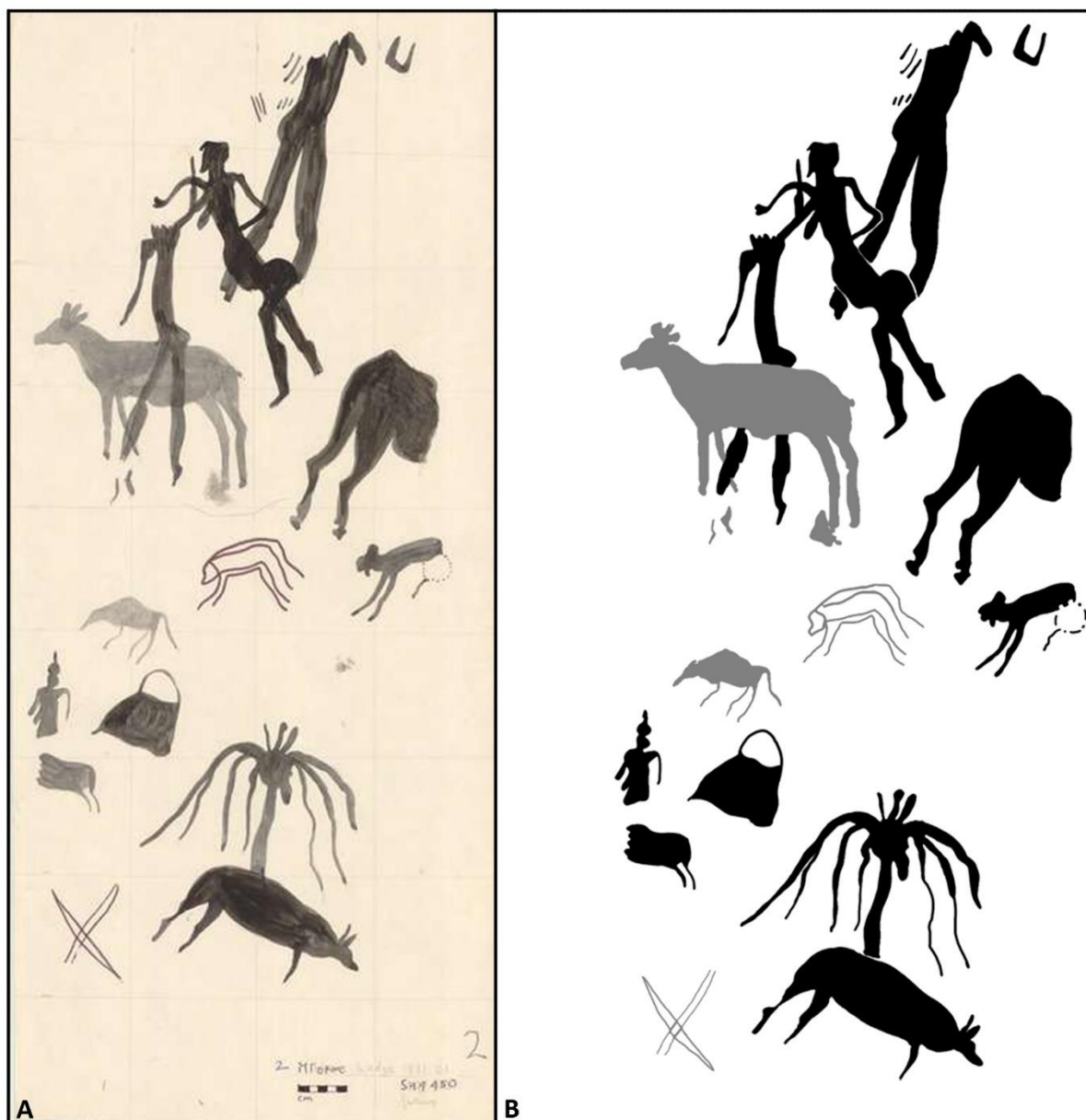
Manemba Cave, Mutoko. A) Photograph (SARADA. SMT ZIM MNB1 28); D) Photograph (SARADA. SMT ZIM MNB1 42); K) Photograph (SARADA. SMT ZIM MNB1 6); L) Photograph (SARADA. SMT ZIM MNB1 5); O) Photograph (SARADA. SMT ZIM MNB1 31); P) Photograph (SARADA. SMT ZIM MNB1 20); Q) Photograph (SARADA. SMT ZIM MNB1 34) B, E, G, I) Photographs (Jeremy Hollmann); C) Redrawing by author from B; F) Redrawing by author from E; H) Redrawing by author from G; J) Redrawing (Garlake 1995 fig. 108); M) Redrawing (Garlake 1987b: 51 fig. 78); N) Redrawing by author modified from M.



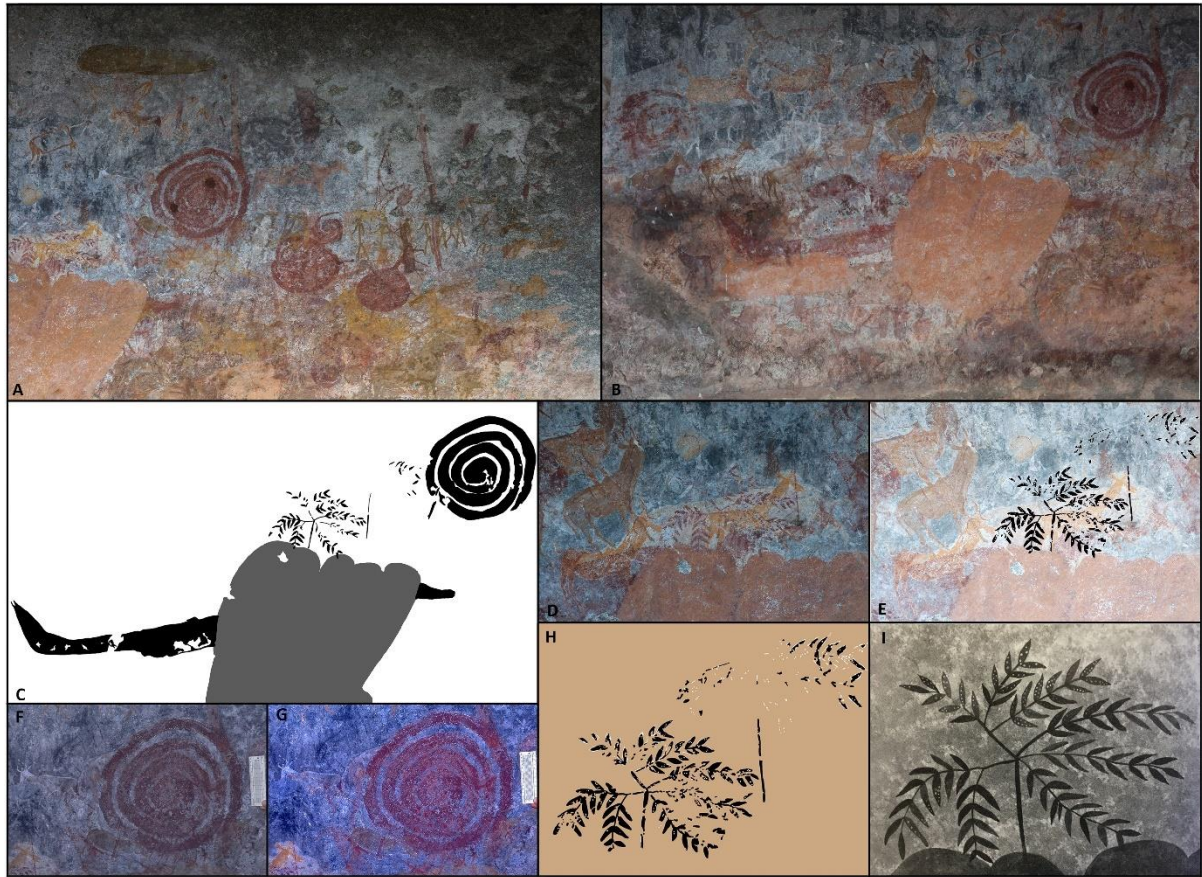
Mashonganyika Farm, Goromonzi. A) Historical copy (Cooke 1971 fig. 16); B) Redrawing by author modified from A.



Mtokwe 12, Wedza. A) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 113HC); B) Redrawing by author from B.



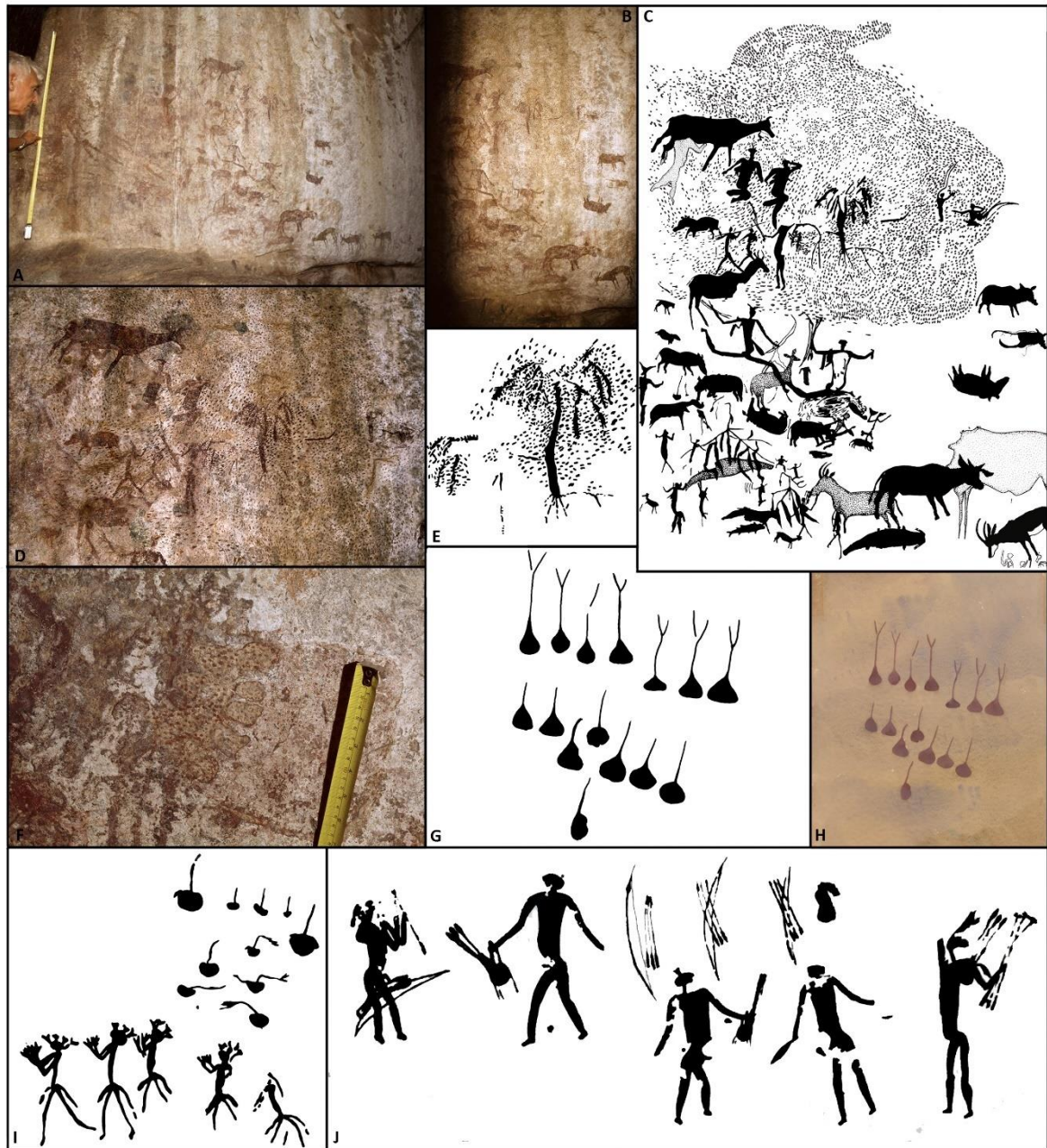
Mtokwe 16, Wedza. A) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 109HC); B) Redrawing by author from B.



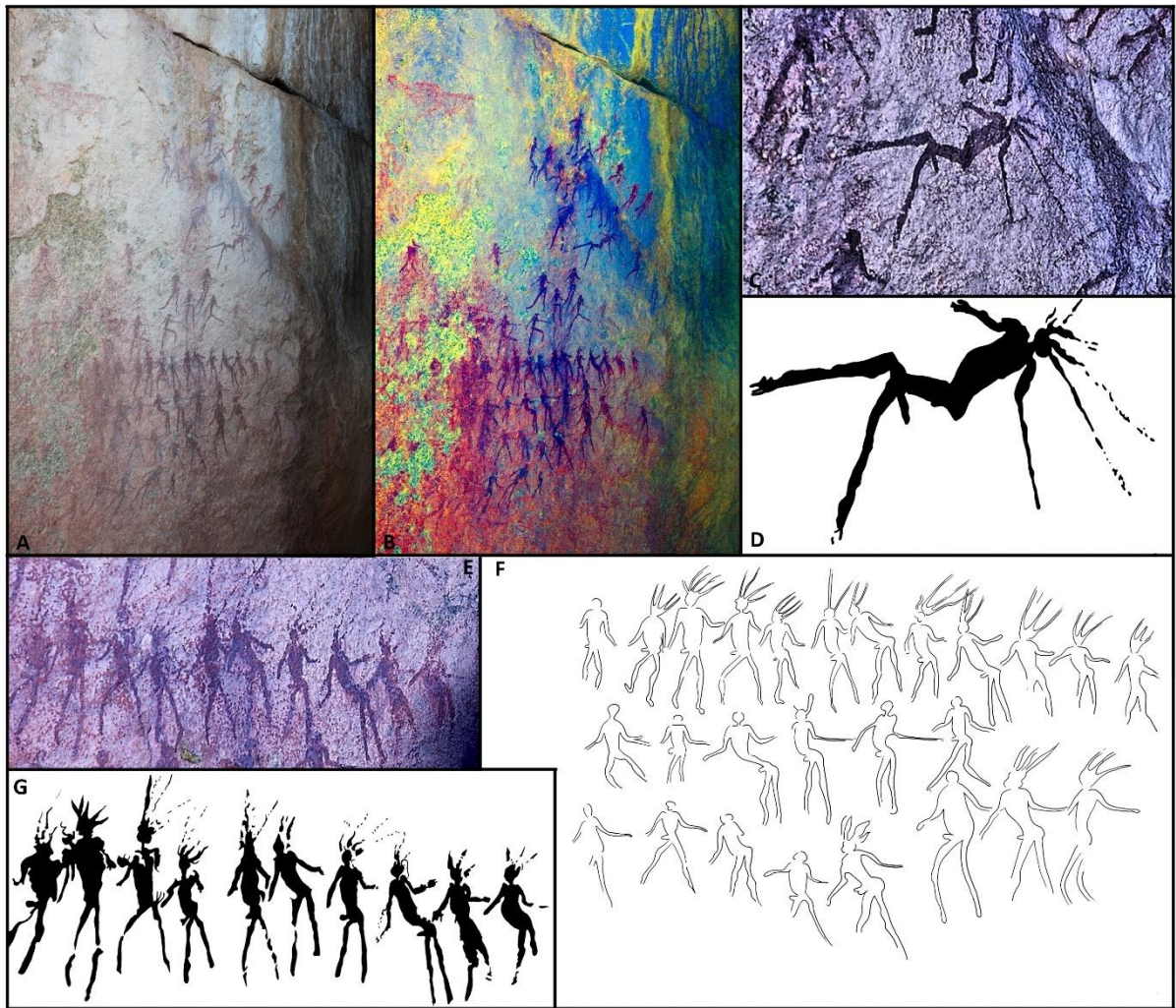
Mucheka 1, Murehwa. A, B, D) Photographs (Jeremy Hollmann); C) Redrawing by author from B; E) Redrawing by author overlaid over background with opacity reduced to 50%. F) Photograph (SARADA. SMT ZIM MUC1 26); G) F edited: saturation increased 70%; H) Redrawing by author from D; I) Historical copy (Goodall 1957 plate 25).



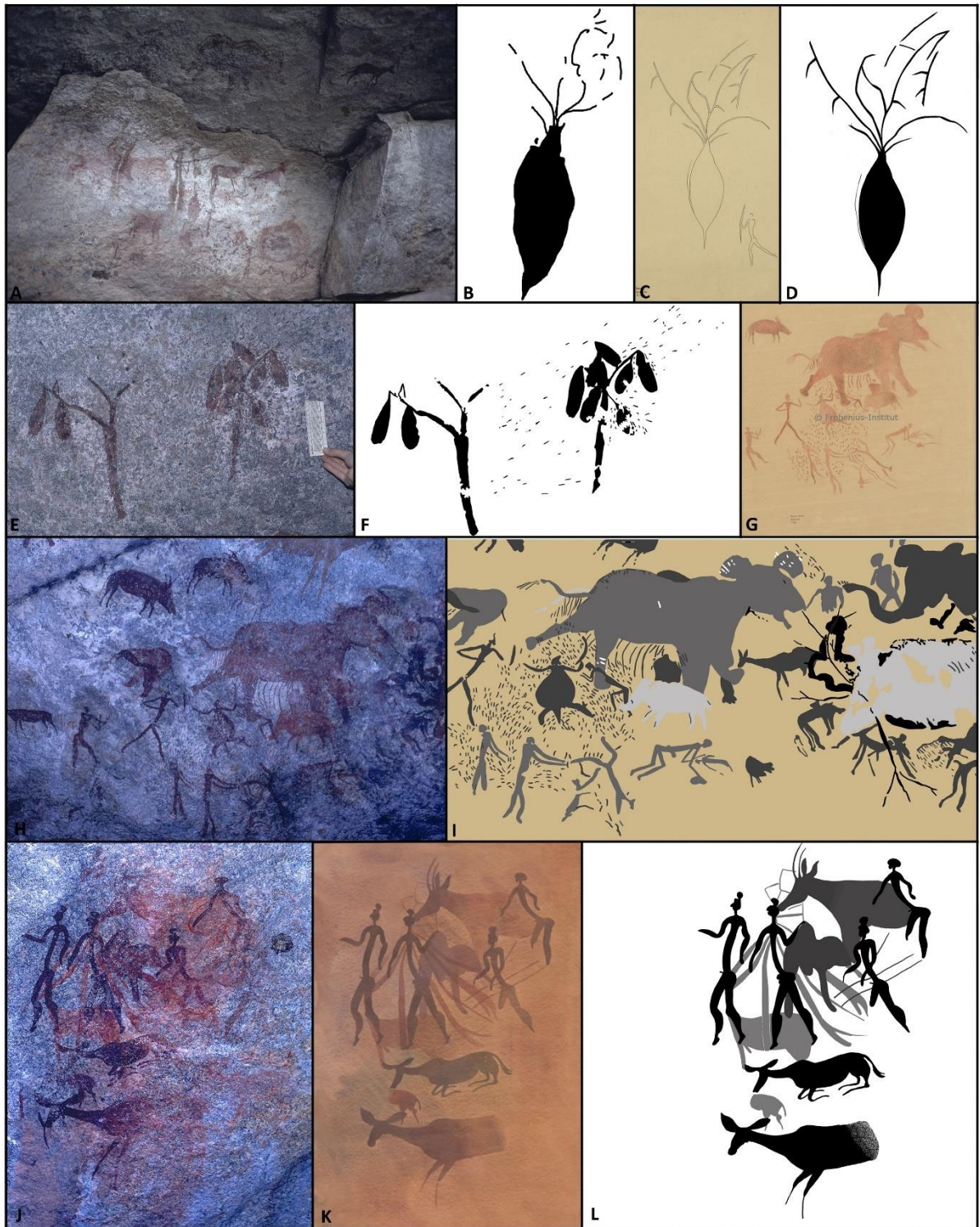
Mucheka 1 *continued*, Murehwa. A) Photograph (Jeremy Hollmann); B-D & F-H) Photographs (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); E) Redrawing (Garlake 1995: 53 fig. 52); I) Redrawing (Garlake 1995 fig. 130).



Murehwa. A, B, D, F) Photographs (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); C) Redrawing (Garlake 1995: 100 fig. 118); E) Redrawing by author of isolated fig. from D; G) Redrawing by author from H; H) Historical copy (Frobenius, SARADA. IZI LVF 01 322HC); I) Redrawing (Garlake 1995: 140 fig. 169); J) Redrawing (Garlake 1995: 51 fig. 49).



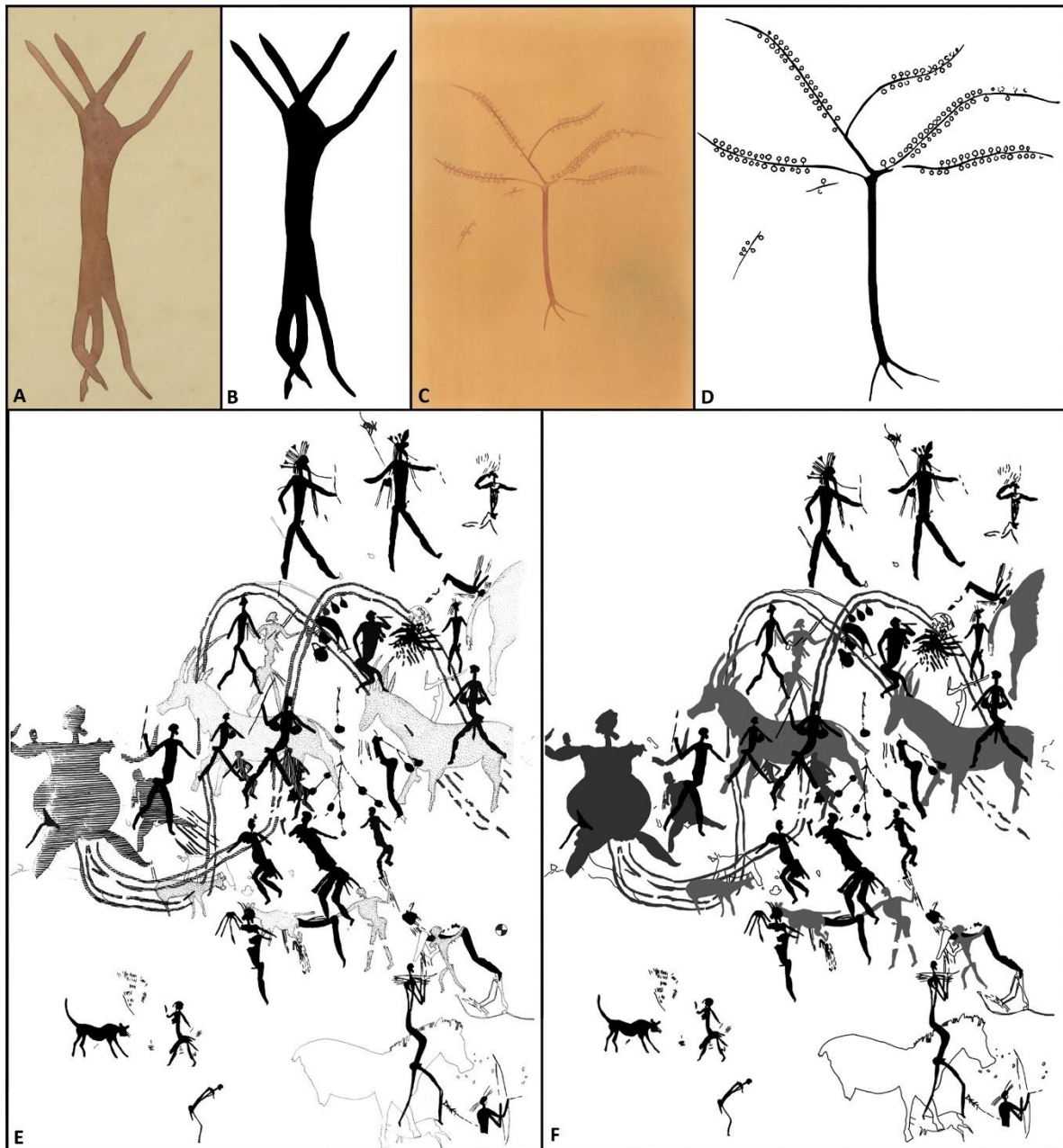
Murehwa Cave. A) Photograph (Jeremy Hollmann); B) A edited with DStretch_Ids; C) Photograph (SARADA. SMT ZIM REW1 9); D) Redrawing by author from C; E) Photograph (SARADA. SMT ZIM REW1 9); F) Historical copy (Frobenius, SARADA. IZI LVF 01 112HC); G) Redrawing by author from E.



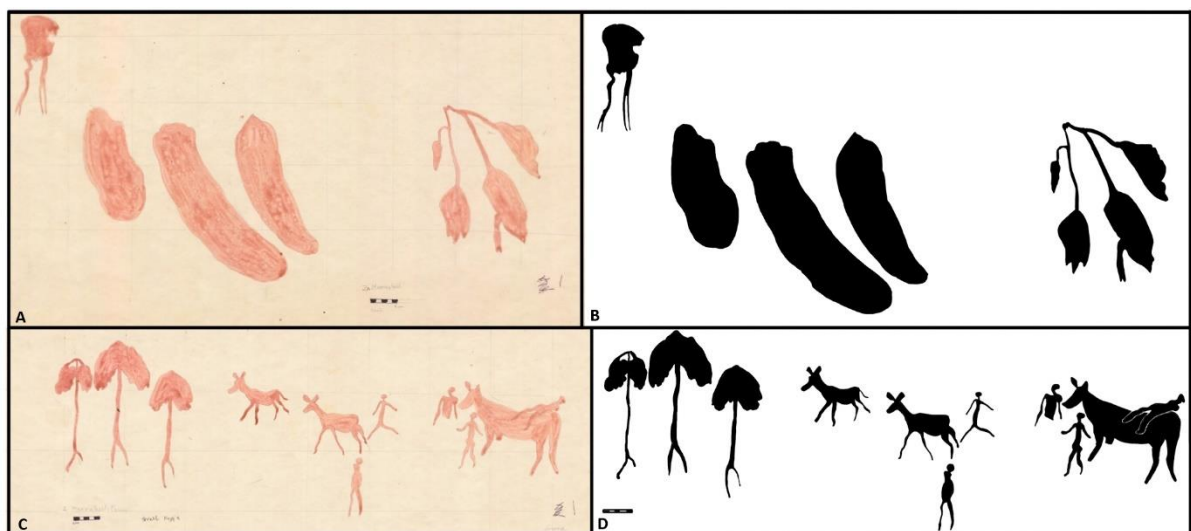
Murehwa Cave *continued*. A) Photograph (SARADA. SMT ZIM REW1 10); B) Redrawing by author of USO from A; C) Historical copy (FBA-B 00672, © Frobenius Institute); D) Redrawing by author from C; E) Photograph (SARADA. SMT ZIM REW1 30); F) Redrawing by author from E; G) Historical copy (FBA-B 00766, © Frobenius Institute); H) Photograph (SARADA. SMT ZIM REW1 20); I) Redrawing by author from H; J) Photograph edited: saturation increased 37%; K) Historical copy (Frobenius, SARADA. IZI LVF 01 38HC); L) Redrawing by author from K).



Murehwa Cave *continued*. A) Photograph (SARADA. SMT ZIM REW1 12); B) Redrawing by author from B; C) Isolated botanical fig. from B; D) Photograph (SARADA. SMT ZIM REW1 36); E) Photograph (SARADA. SMT ZIM REW1 3); F) Redrawing by author from E.



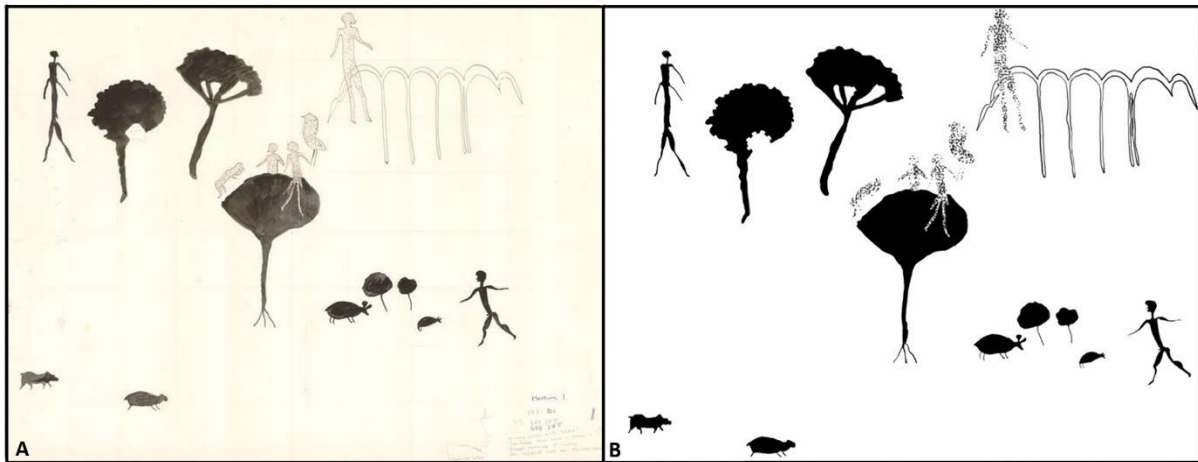
Mutoko. A) Historical copy (FBA-B 00683, © Frobenius Institute); B) Redrawing by author from A; C) Historical copy (Frobenius, SARADA. IZI LVF 01 320HC); D) Redrawing by author from C); E) Redrawing (Garlake 1995: 88 fig. 98); F) E modified by author.



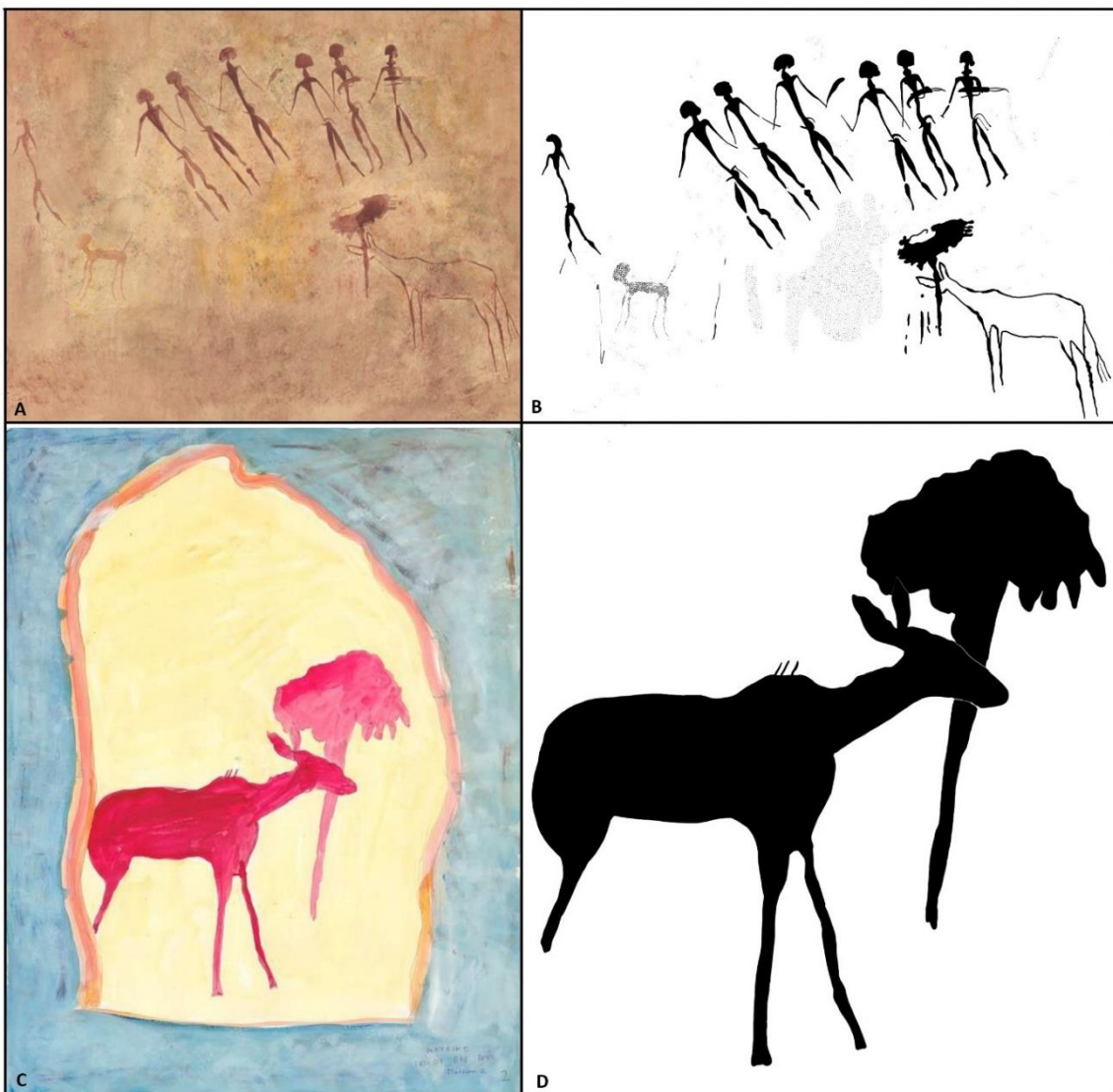
Merryhill 2, Marondera. A) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 44HC); B) Redrawing by author from A; C) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 45HC); D) Redrawing by author from C.



Nelson 2, Wedza. A) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 3HC); B) Redrawing by author from A.



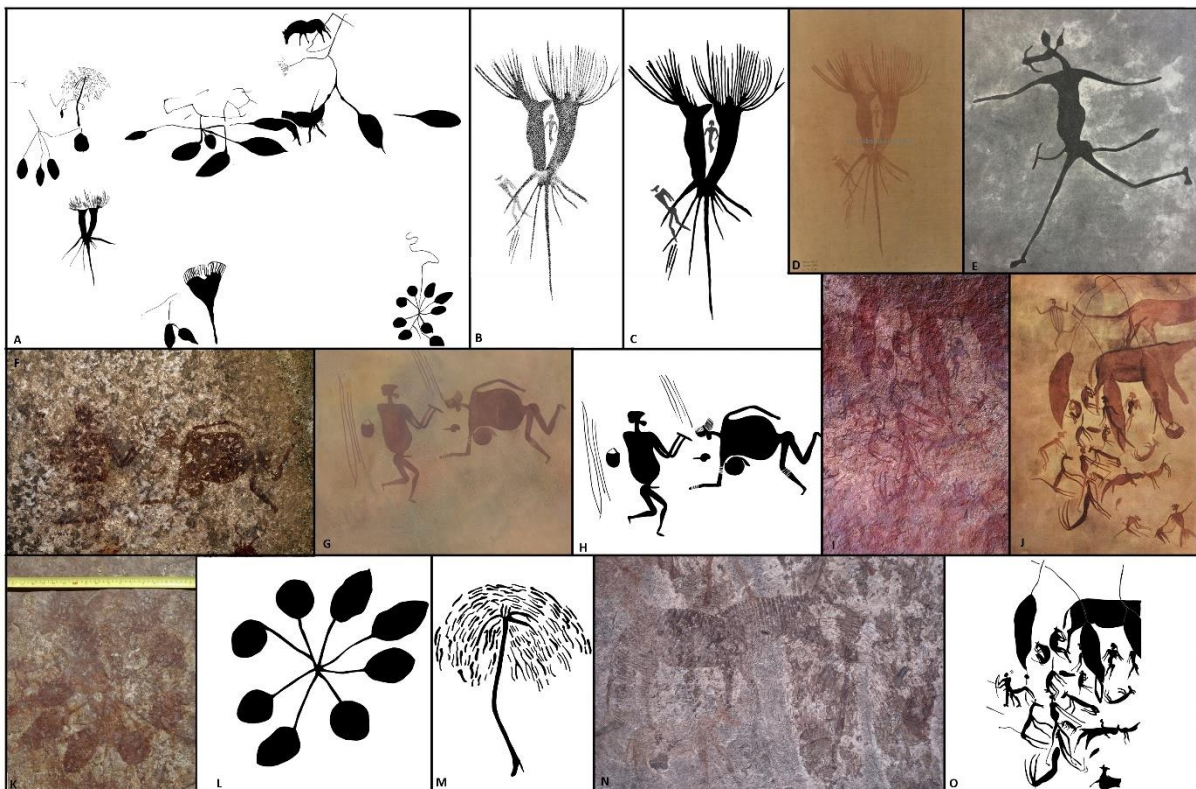
Matsine 1, Wedza. A) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 98HC); B) Redrawing by author from A.



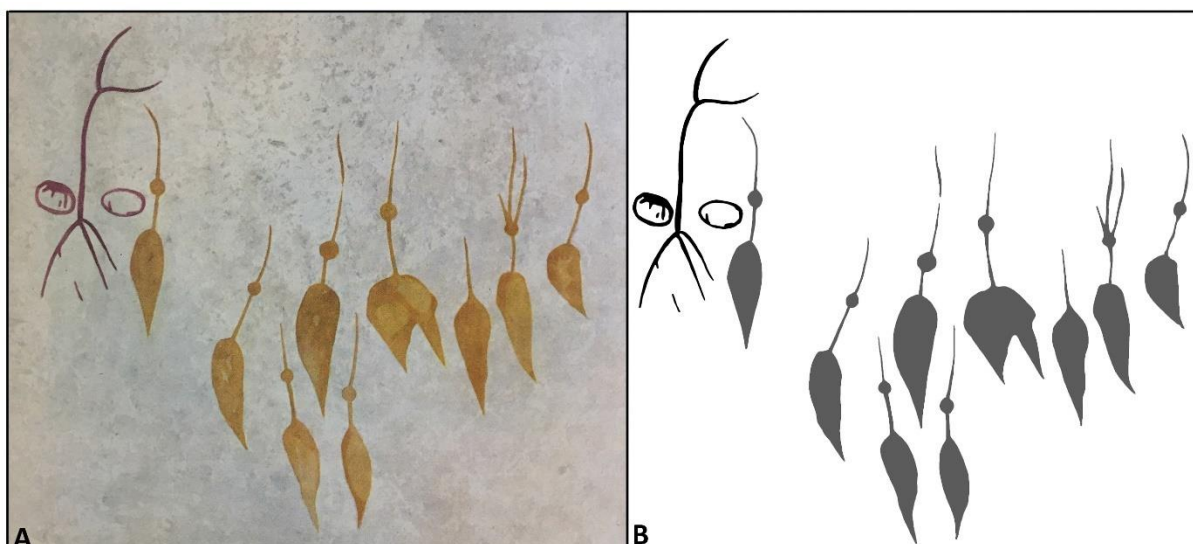
Matsine 2, Wedza. A) Historical copy (Frobenius, SARADA, IZI LVF 01 365HC); B) Redrawing by author from A; C) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 97HC); D) Redrawing by author from C.



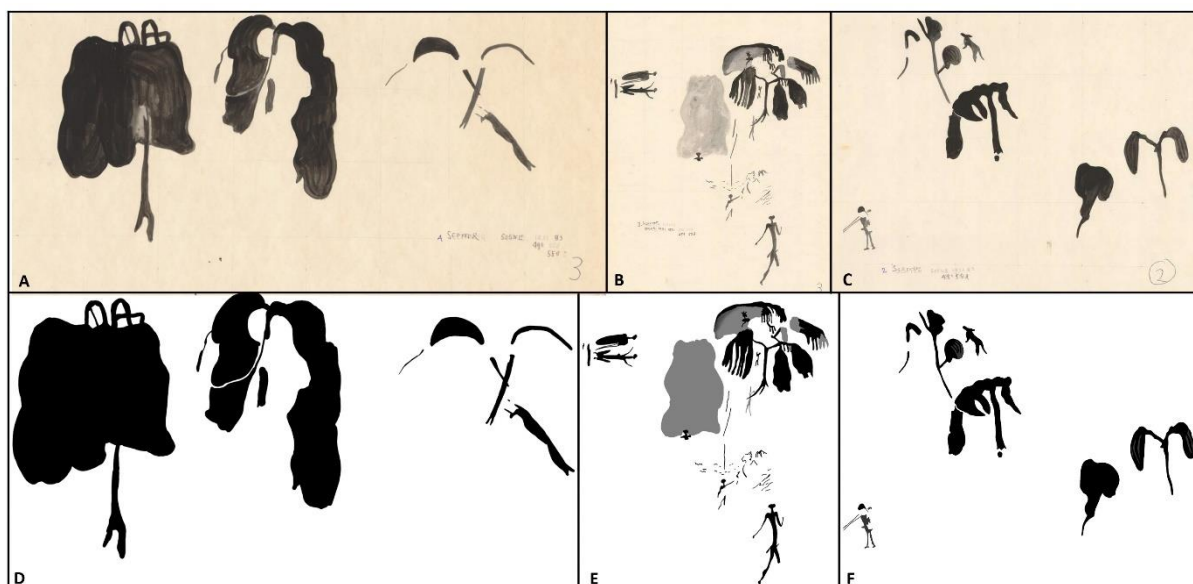
Ruchera, Mutoko. Historical copy (Joachim Lutz, FBA-D4 01619, © Frobenius Institute)



Ruchera, Mutoko *continued*. A) Redrawing by author from Historical copy FBA-D4 01619); B) H) Redrawing (Siyakha Mguni; RARI Archives); C) Redrawing by author from B; D) Historical copy (FBA-B 00673, © Frobenius Institute); E) Historical copy (Goodall 1959 fig. 28); F) Photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); G) Historical copy (Frobenius, SARADA. IZI LVF 01 111HC); H) Redrawing by author from G; I) Photograph (SARADA. IZI ZIM RUC1 7); J) Historical copy (Goodall 1959 plate 16); K) Photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA); L) Redrawing by author from K; M) Redrawing by author from N; N) Photograph (SARADA. SMT ZIM RUC1 19); O) Redrawing by author from J.



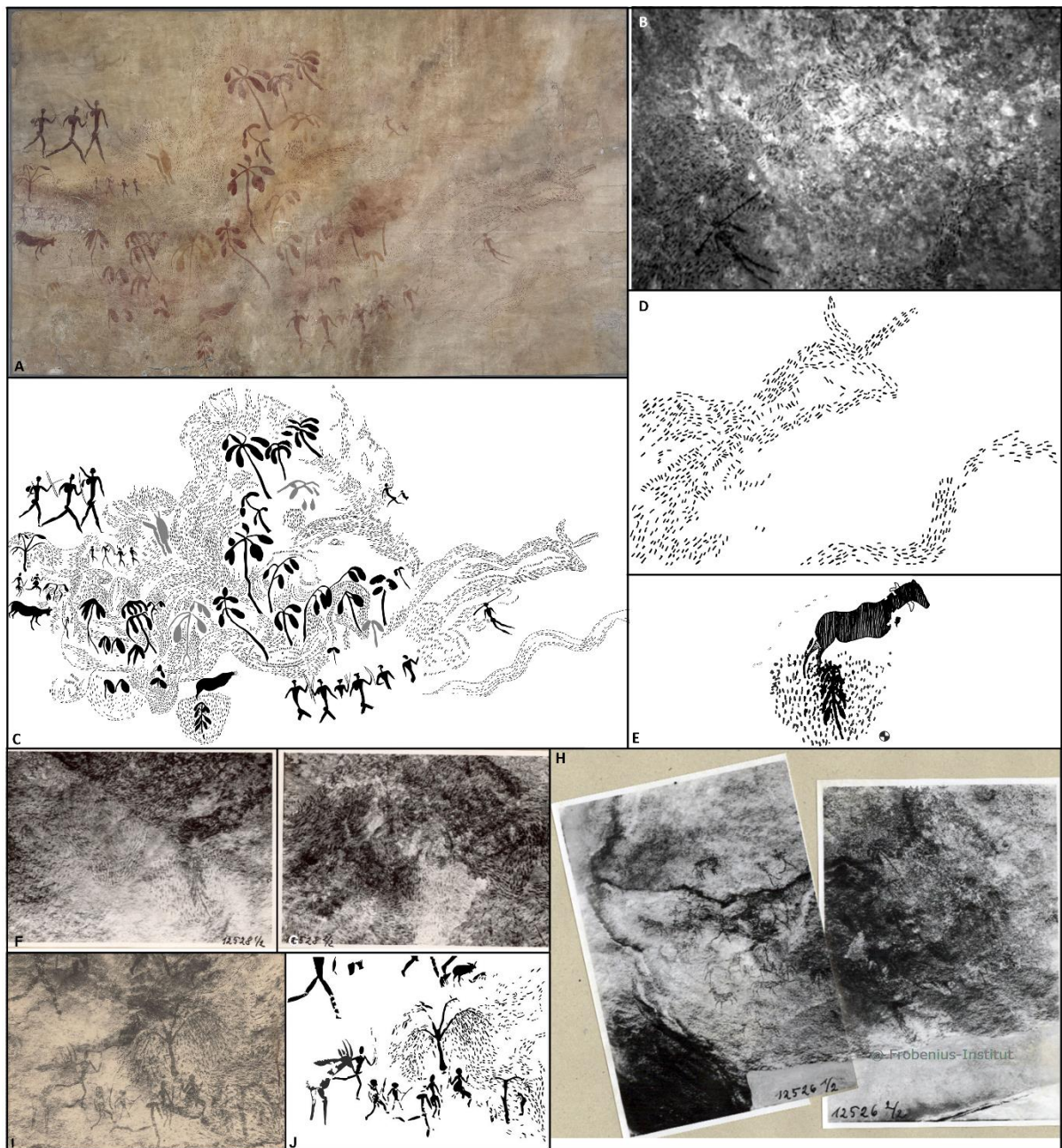
Runaga, Goromonzi. A) Historical copy (Goodall 1959 plate 42); B) Redrawing by author from A.



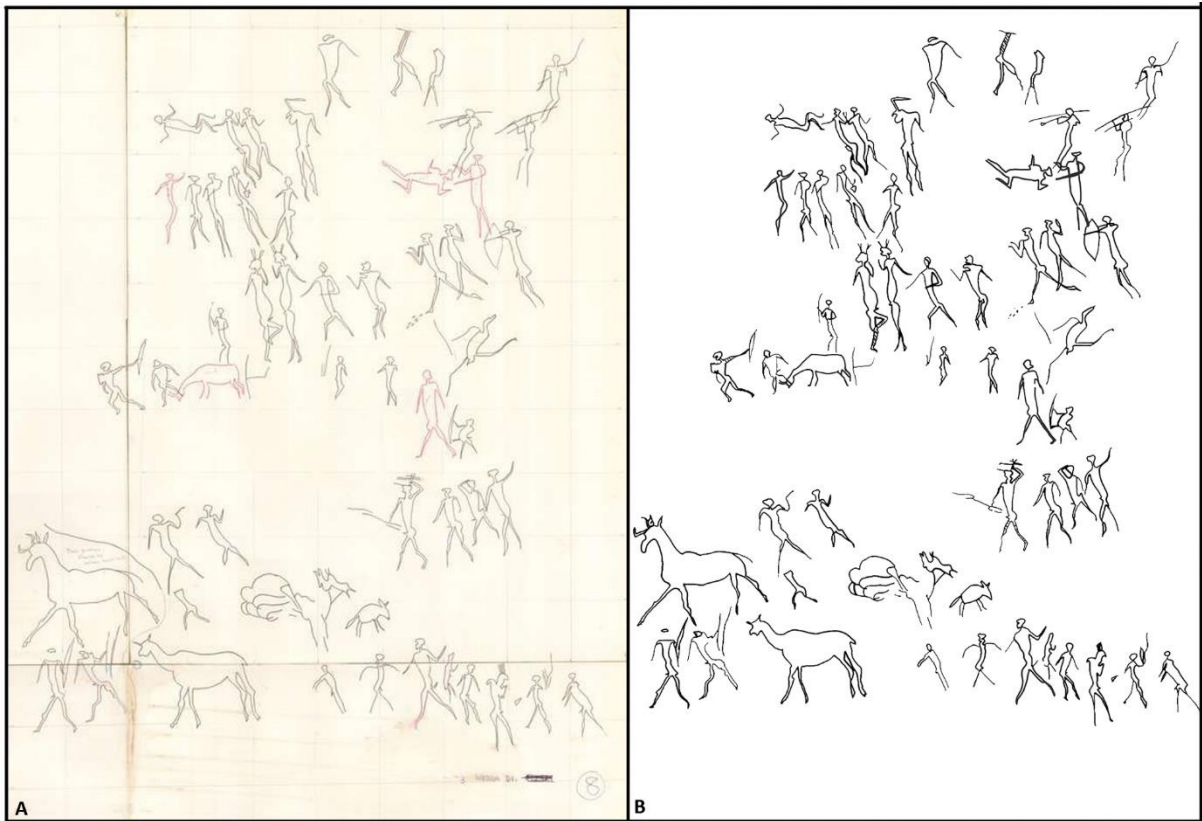
Scorrer Estate. A) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 63HC); B) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 62HC); C) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 64HC); D) Redrawing by author from A; E) Redrawing by author from B; F) Redrawing by author from C.



Sindjanja, Chikomba. A) Photograph (FBA-D3 01629, © Frobenius Institute); B) Photograph (FoA 09-12485, © Frobenius Institute); C)) Photograph (FBA-A1 09-034, © Frobenius Institute); D) Historical copy (FBA-D2 01628, © Frobenius Institute); E) Historical copy (FBA-D3 01629, © Frobenius Institute); F) Redrawing by author from E.



Tsindi, Marondera. A) Historical copy (FBA-D3 01519, © Frobenius Institute); B) Photograph (Bahn 2010: 79 fig. 45); C) Redrawing by author from A; D) Redrawing by author from B); E) Redrawing (Garlake 1995 fig. 119); F–H) Photograph (FoA 09~Kat014-388, © Frobenius Institute); I) Photograph (FBA-B 01664~a, © Frobenius Institute); J) Redrawing by author from I.

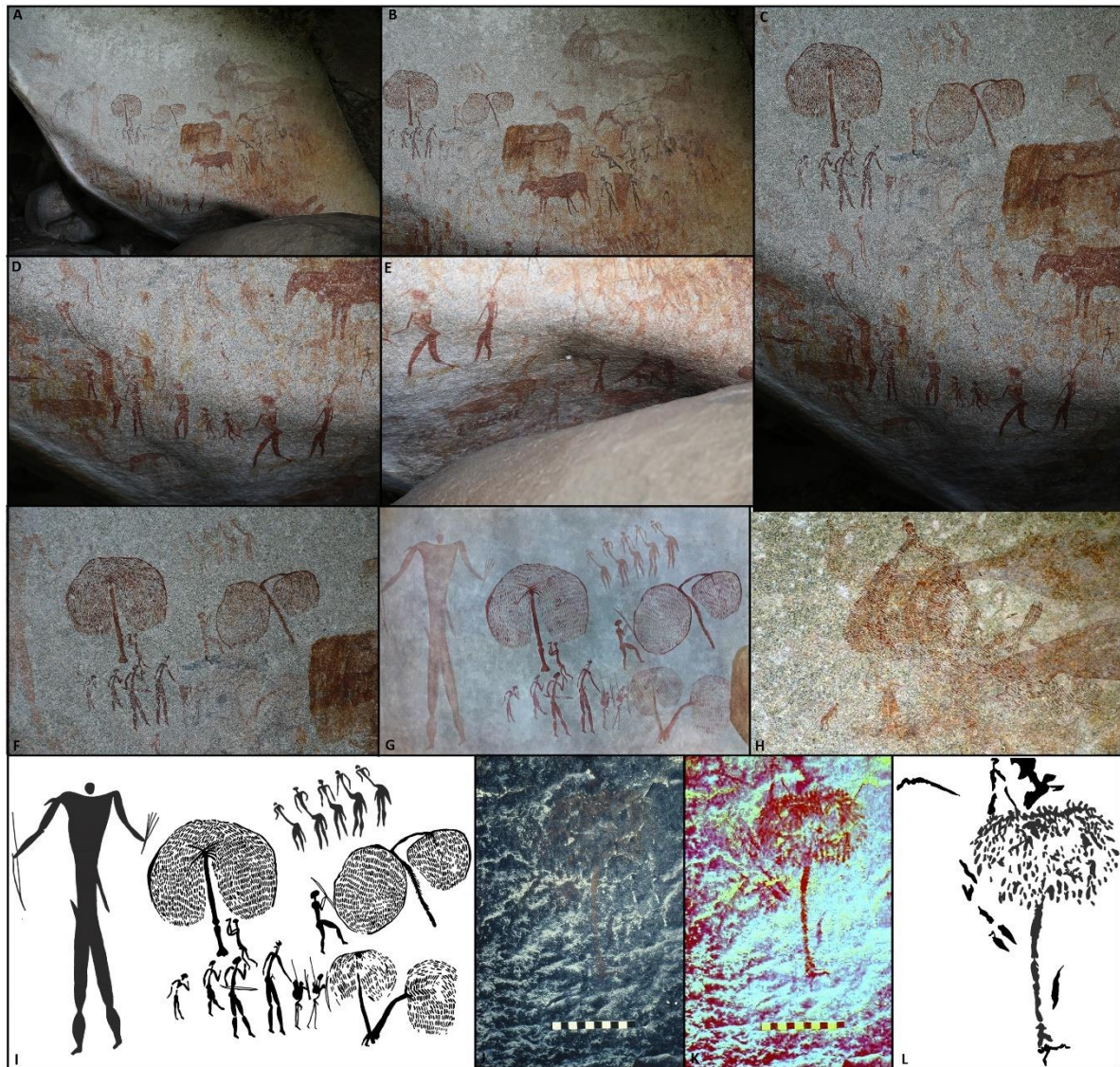


WCL1, Wedza. A) Historical copy (Corona Thornycroft, SARADA. RARI CT 01 183HC); B) Redrawing by author from A.



Wedza. A) Redrawing (Garlake 1995: 90 fig. 100).

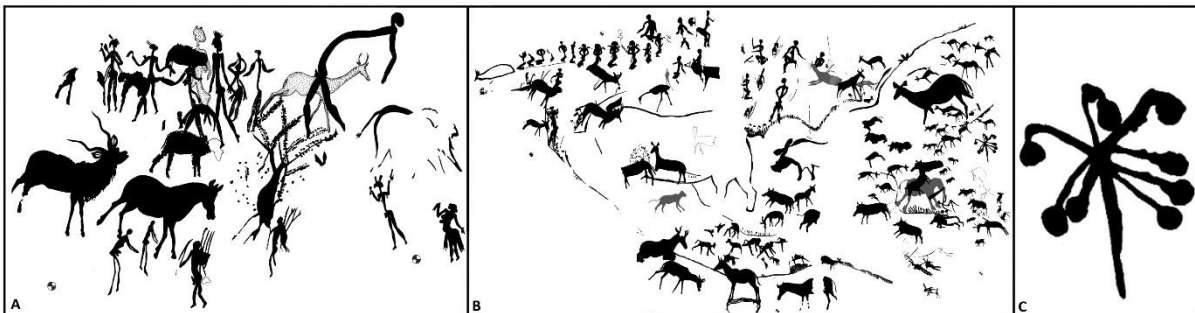
Mashonaland West



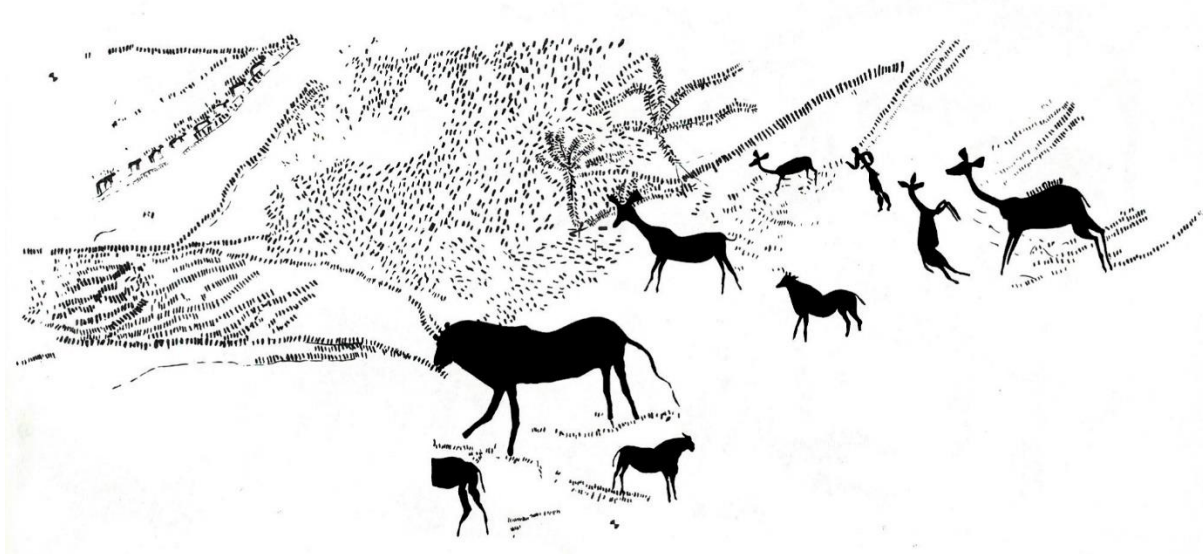
Bushman Point, Zvimba. A-F, & H) Photographs (Nicole Calame-Darbellay); G) Historical copy (Goodall 1959 plate 41); I) Redrawing by author from G; J) Photograph (SARADA. RARI ZIM USH1 3); K) J edited with DStretch_yrd; L) Redrawing by author from J.



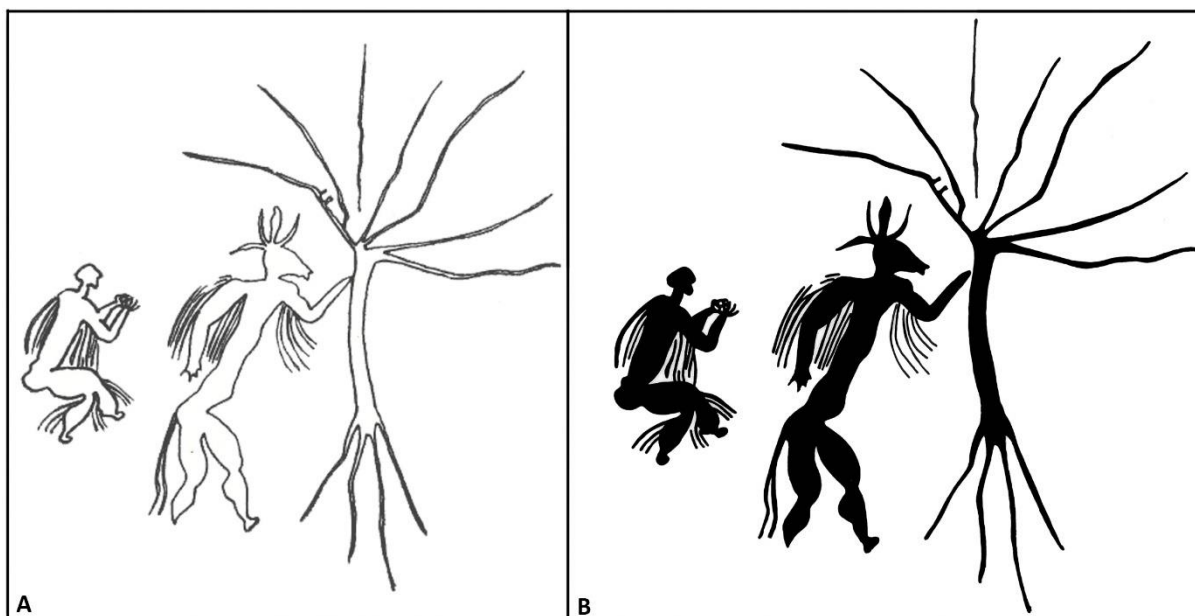
Lake Chivero (formerly Robert McIlwaine National Park), Zvimba. A & B) Photographs (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); C) Redrawing by author from B; D & E) Historical copy (Goodall 1959 plate 8 left and right); F) Redrawing by author from composite image of D & E.



Makonde. A) Redrawing (Garlake 1995:103 fig. 122); B) Redrawing (Garlake 1995: 120–121 fig. 141); C) Isolated fig. from right-hand side of B.



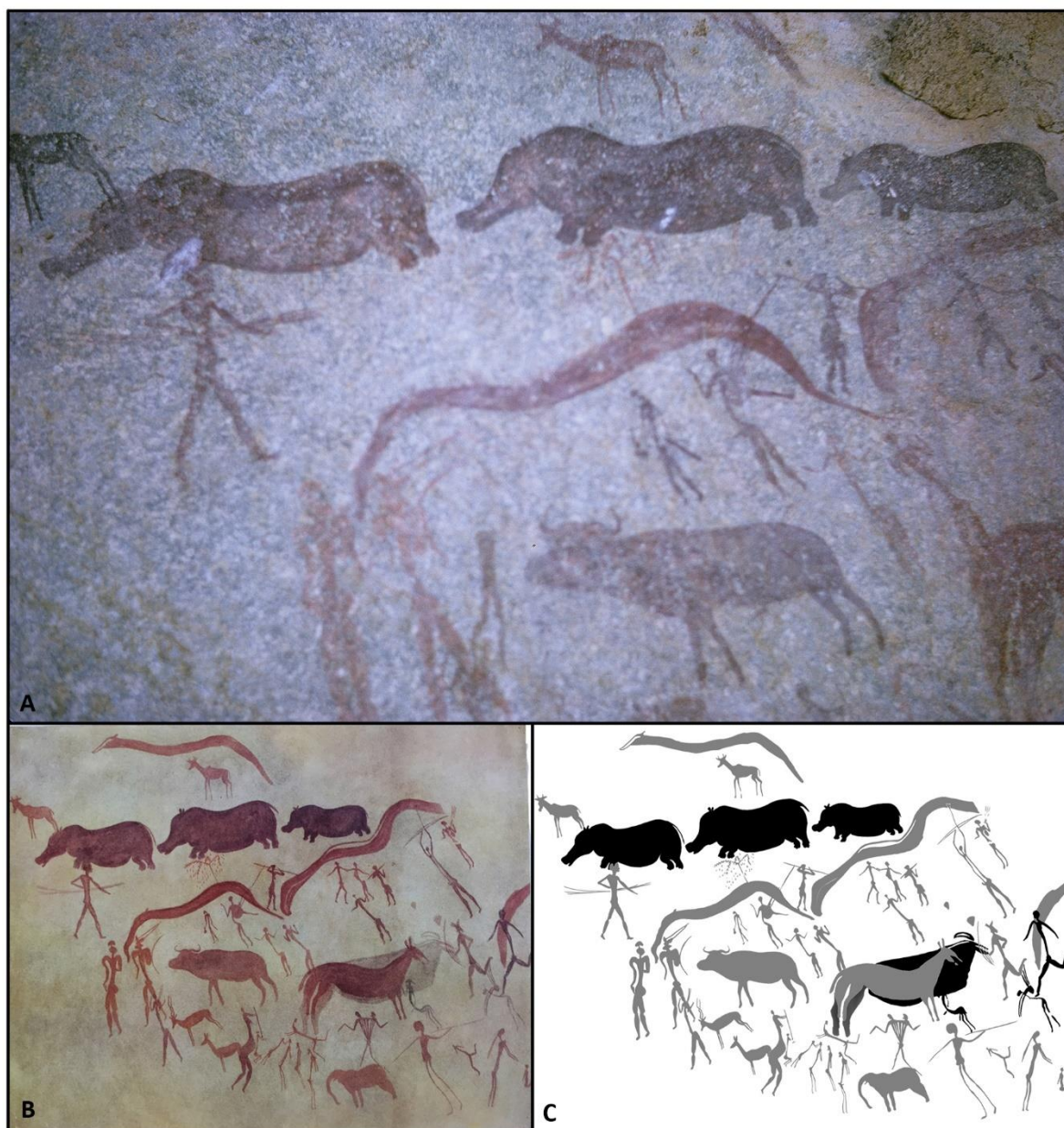
Marengo, Makonde. Redrawing (Garlake 1995: 102 fig. 117).



Murombedzi, Zvimba. A) Historical copy (Cooke 1971: 19 fig. 17); B) Redrawing from A (Siyakha Mguni).



Saffron Walden, Zvimba. Historical copy (Goodall 1959 plate 34); B) Redrawing by author from A.

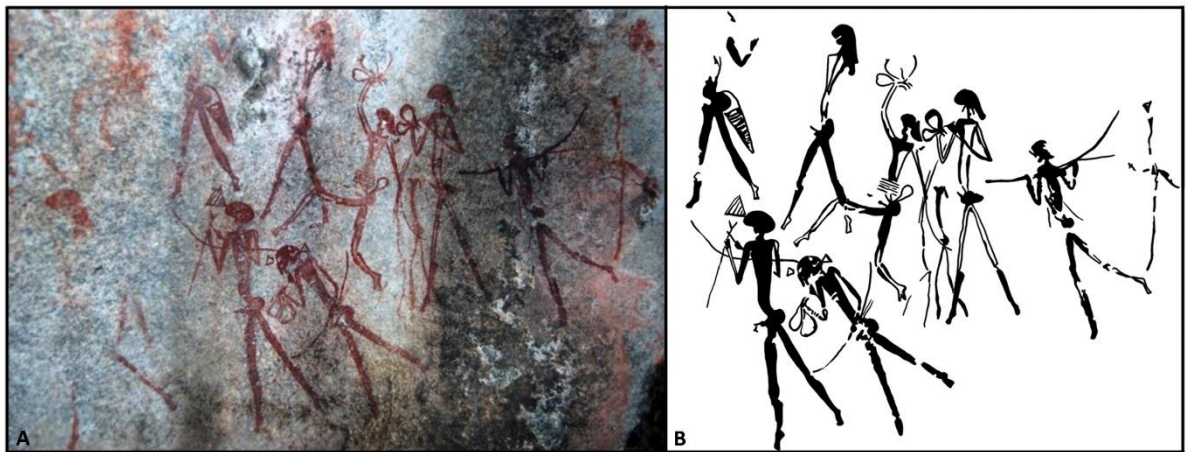


Somerby Farm, Zvimba. A) Photograph (Lyle Tatum); B) Historical copy (Goodall 1959 plate 5); C) Redrawing by author from B.



Zvimba Reserve, Zvimba. A) Historical copy (Goodall 1959 fig. 24); B) Redrawing by author from A.

Masvingo



Chehara, Chivi. A) Photograph (Nhamo 2014: 191); B) Redrawing by author from A.

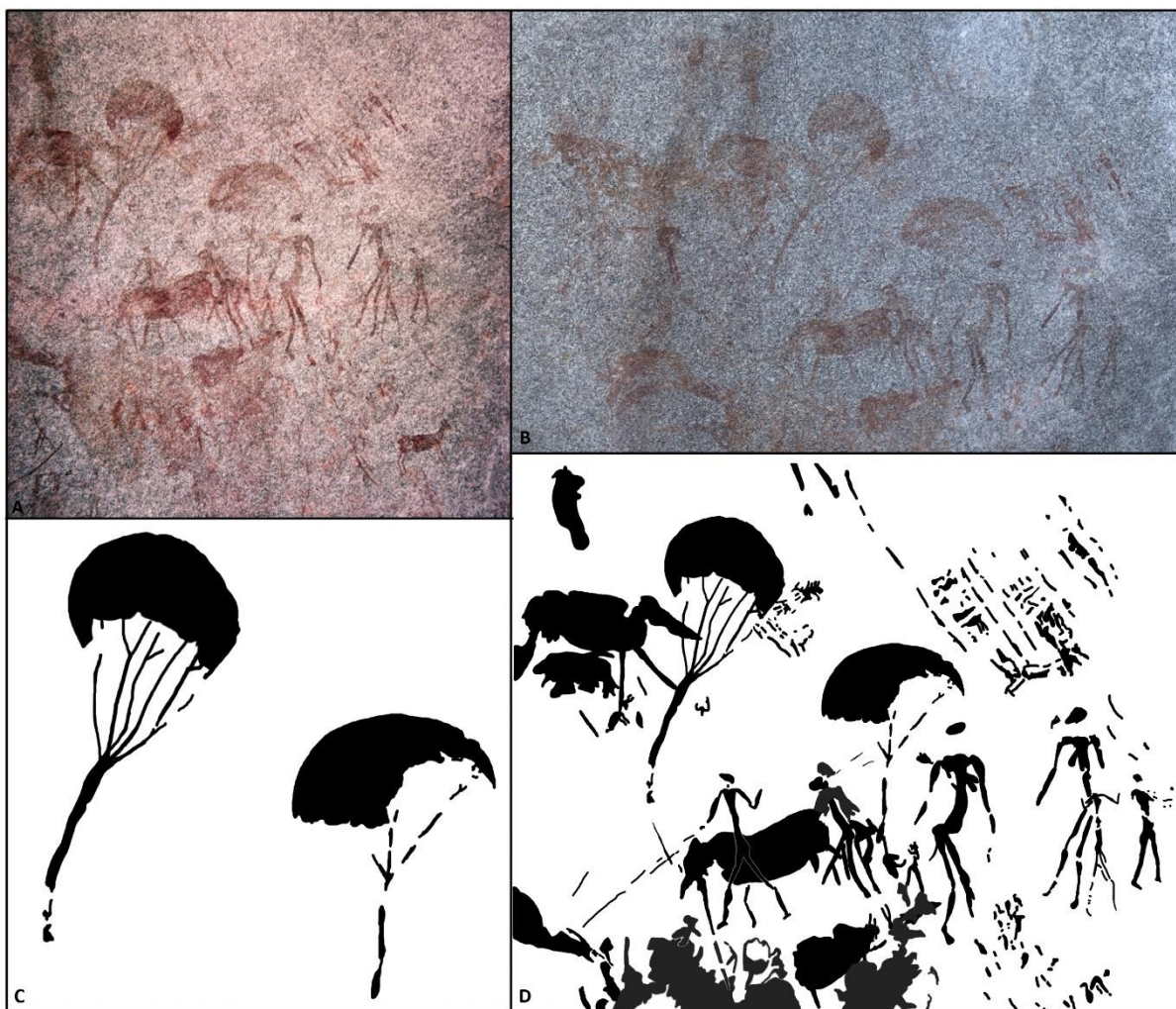


Elizabeth Goodall reproduced painting described as four men in peaceful occupation

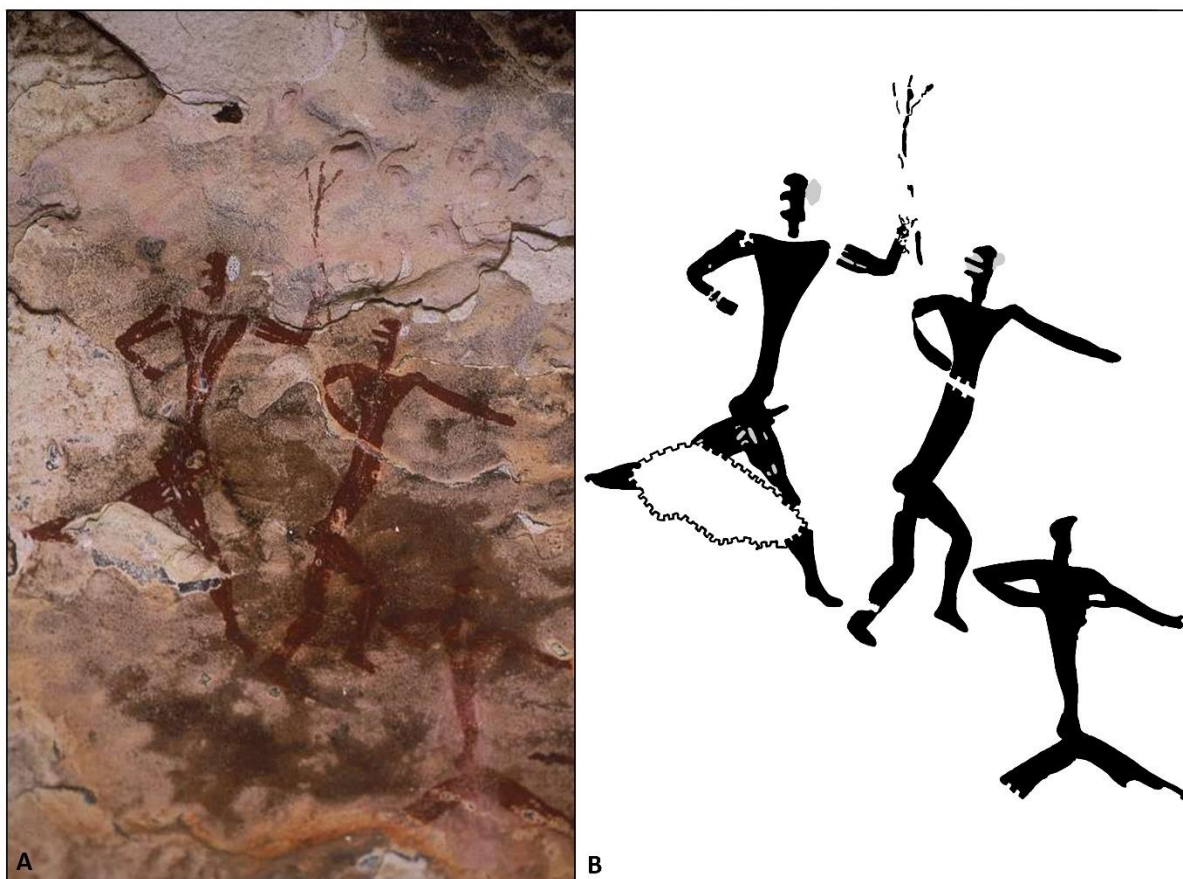
Dengeri Cave, Ndanga. Historical copy (Goodall 1959 from Zimfeildguide).



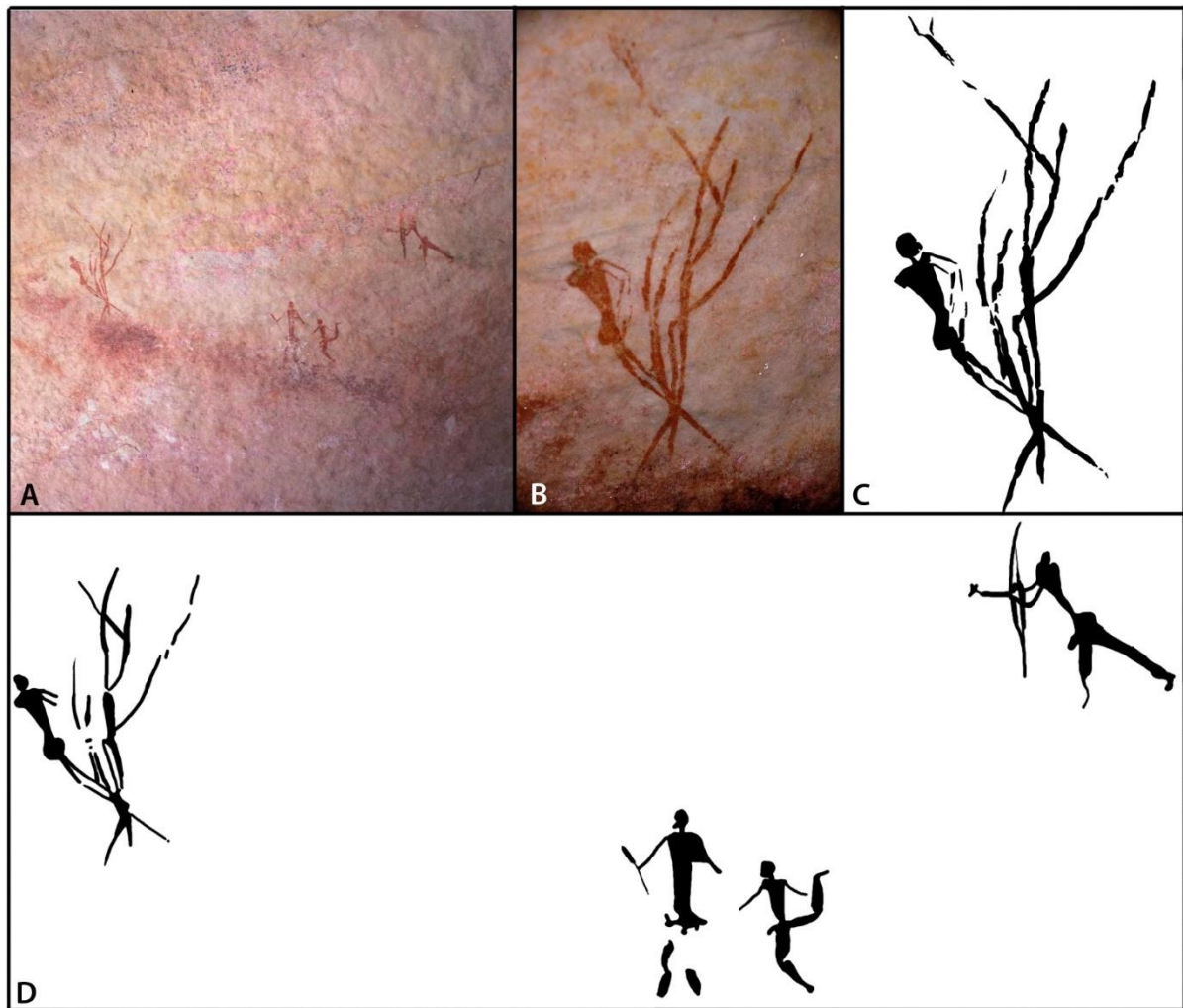
Fair Range 3, Chiredzi. A) Photograph (SARADA. ZIM FRA3 21); B) Photograph (SARADA. RARI ZIM FRA3 3D); C) Redrawing by author from A.



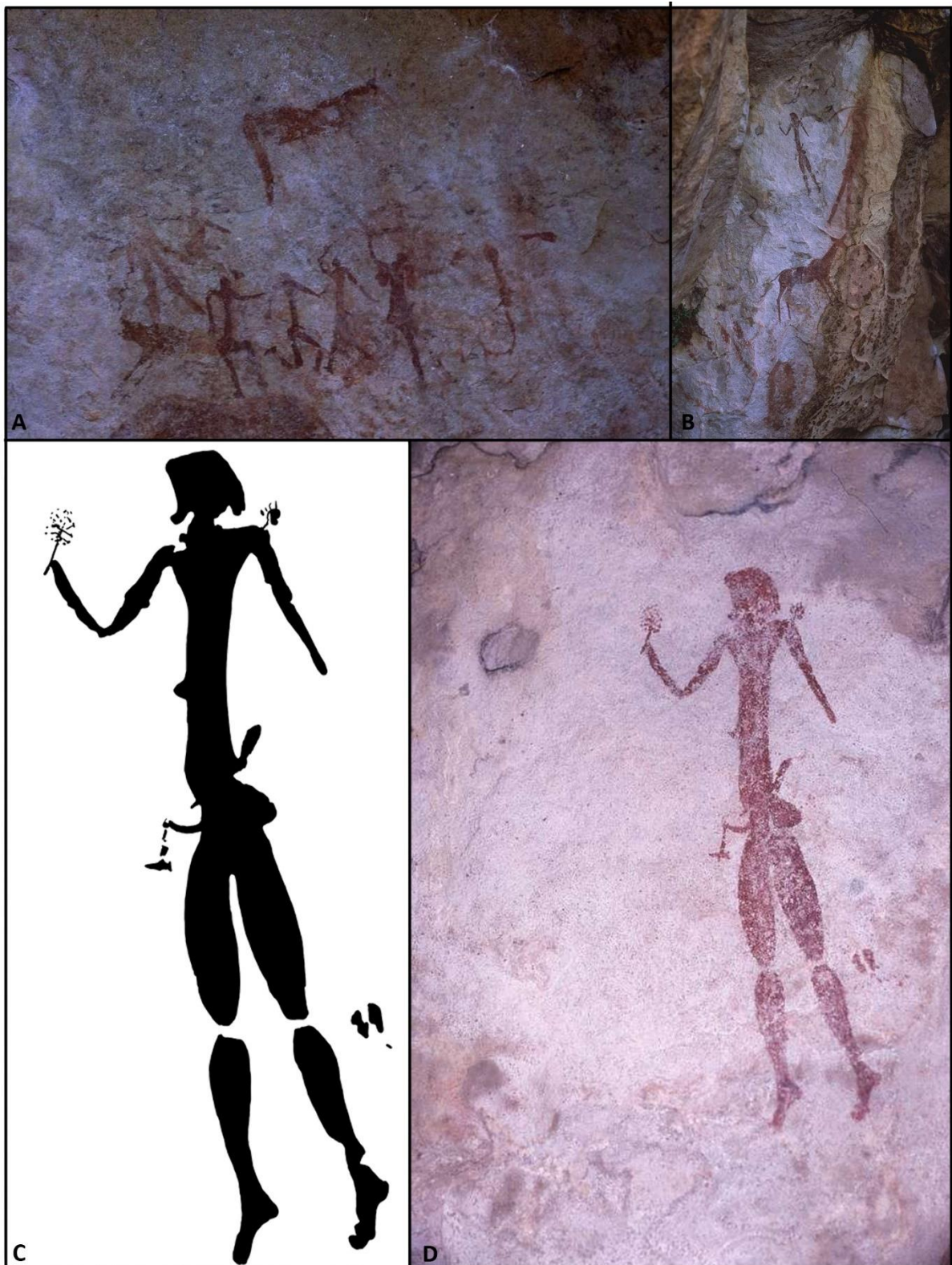
GOK1. A) Photograph (SARADA. RARI ARW ZIM GOK1 4H); B) Photograph (SARADA. SMT ZIM GOK1 4); C) Isolated tree motifs from D; D) Redrawing by author from A.



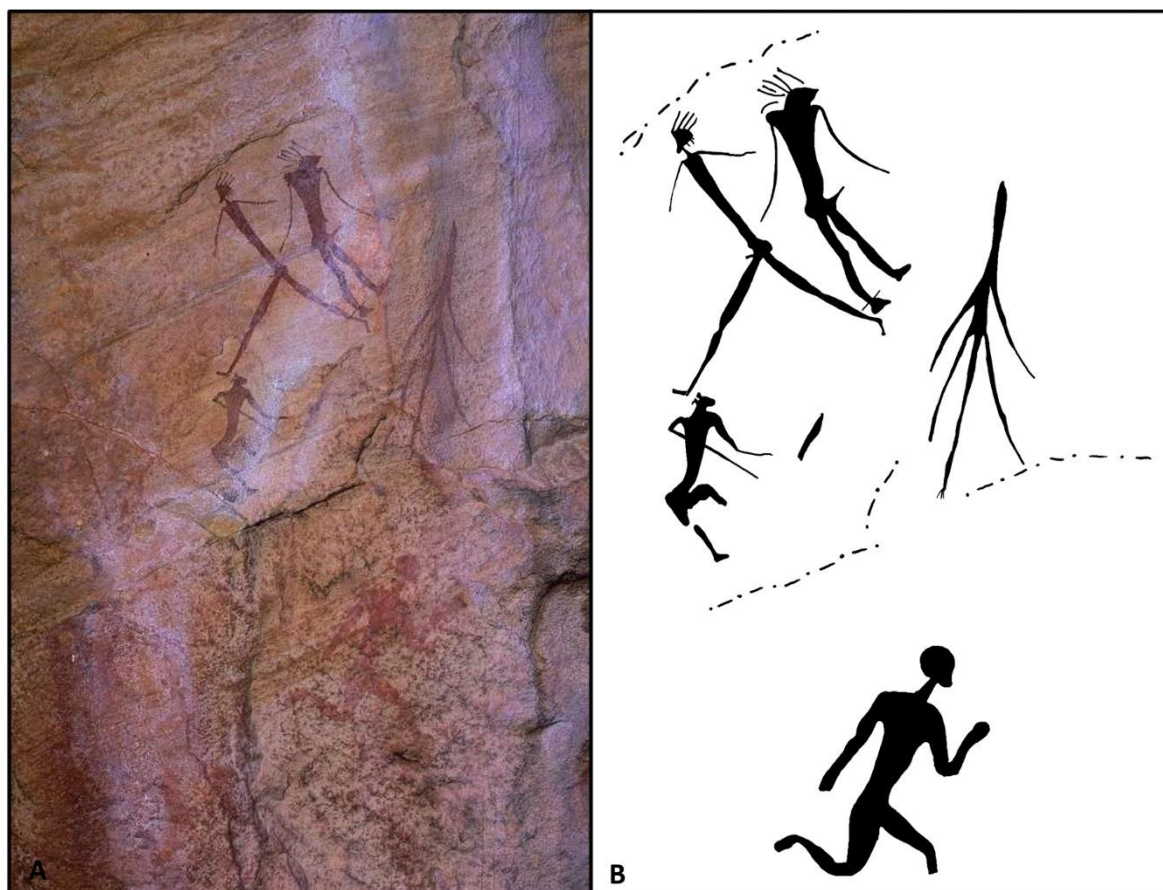
Lone Star Ranch 4. A) Photograph (SARADA. ZIM LSR4 52); B) Redrawing by author from A.



Lone Star Ranch 11. A) Photograph (SARADA. ZIM LSR11 6); B) Photograph (SARADA. ZIM LSR11 1H); C) Redrawing by author from B; D) Redrawing by author from A.



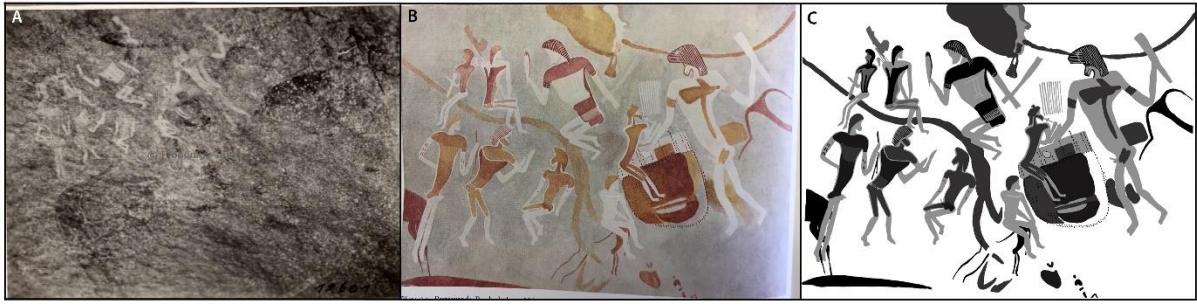
Lone Star Ranch 14. A) Photograph (SARADA. ZIM LSR14 67); B Photograph (SARADA. ZIM LSR14 53); C) Redrawing by author from D; D) Photograph (SARADA. ZIM LSR14 1).



Lone Star Ranch 20. A) Photograph (SARADA. ZIM LSR20 7); B) Redrawing by author from A.



Lone Star Ranch 64. Redrawing (Siyakha Mguni, RARI Archives).

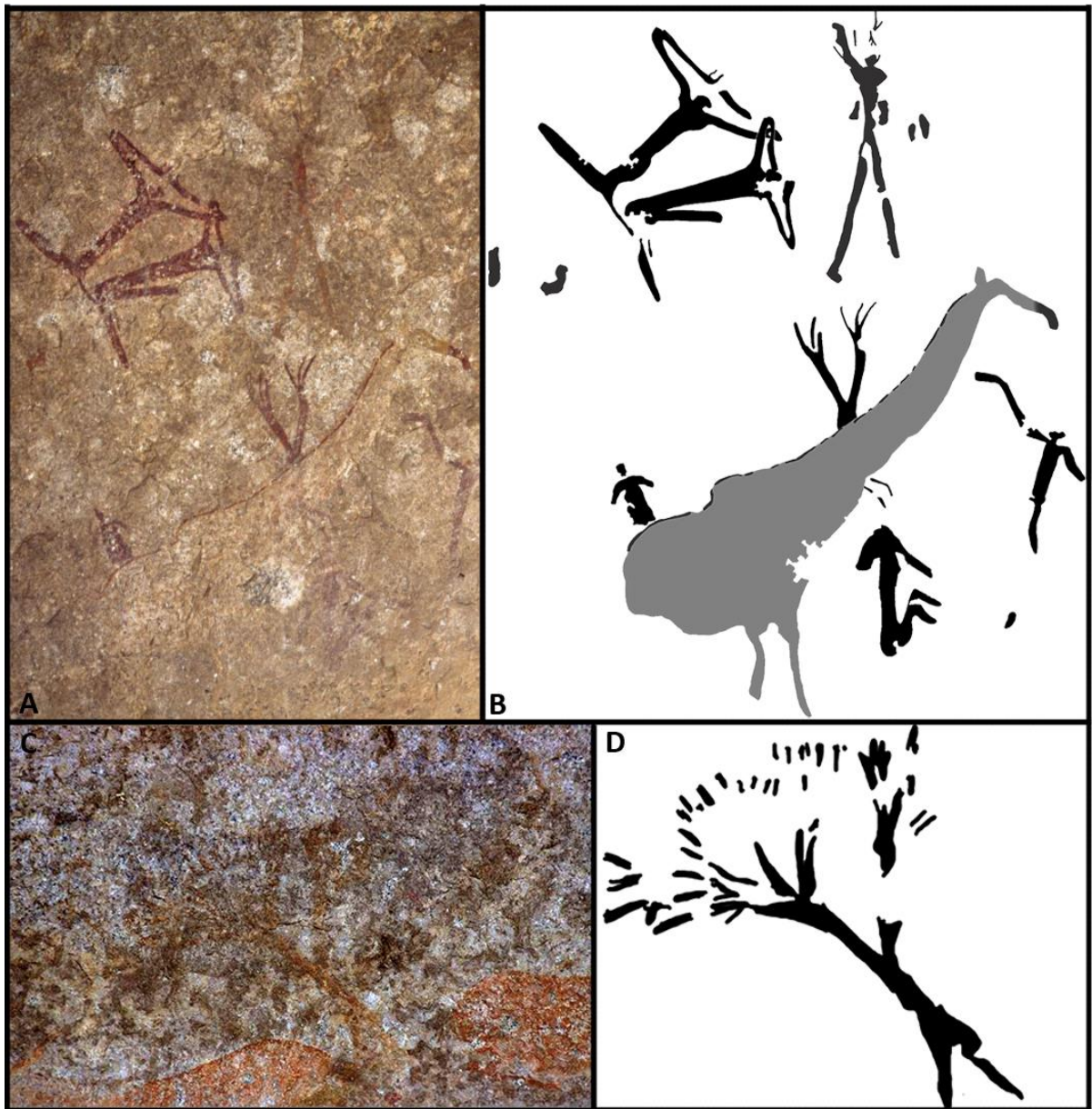


Rumwandi Rock Shelter. A) Photograph (FoA 09-12601, © Frobenius Institute); B) Historical copy (Goodall 1959 plate 24); C) Redrawing by author from B.

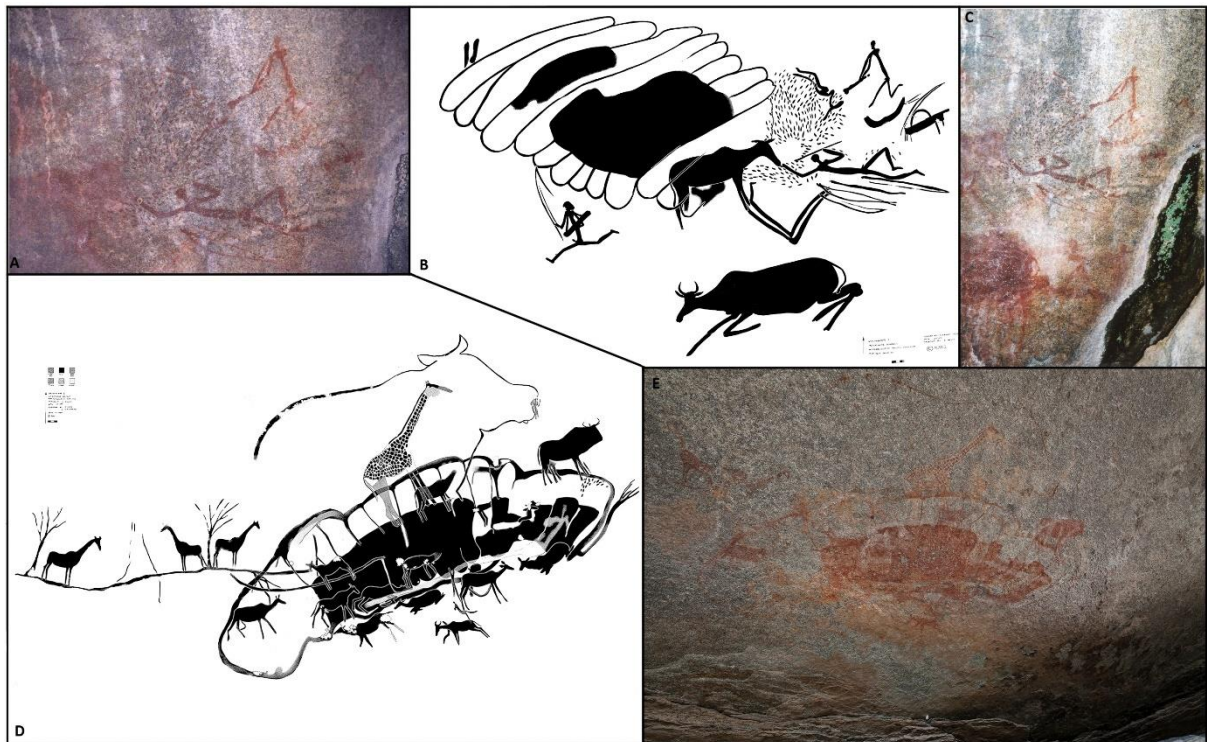
Matabeleland South



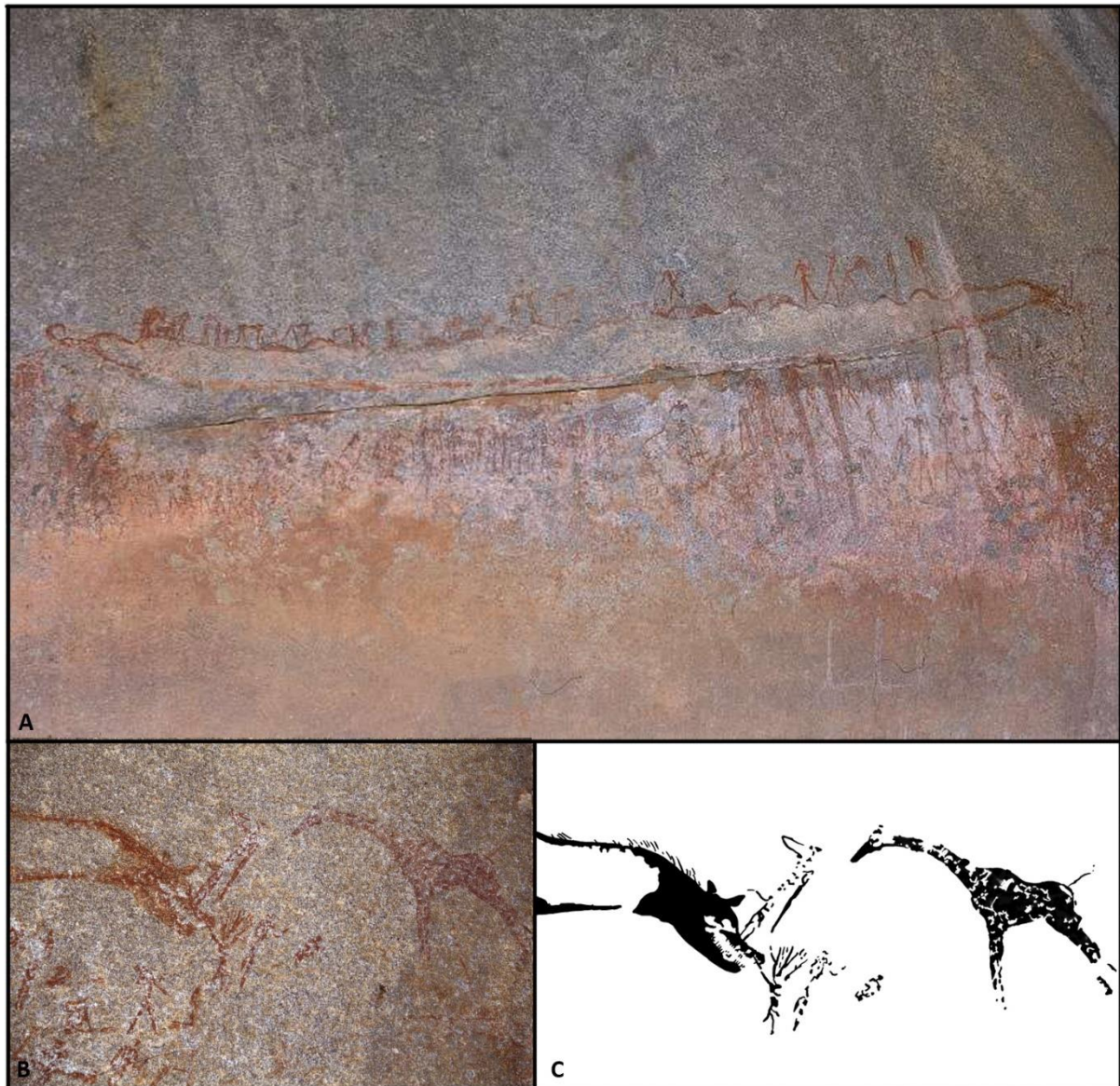
Big Cave Camp, Matobo. A, D, G-L) Photographs (Nicole Calame-Darbellay); B) A edited with DStretch_ac_yrd; C) Redrawing by author from A; E) D edited with Adobe Photoshop auto-contrast; F) D edited with DStretch_yrd.



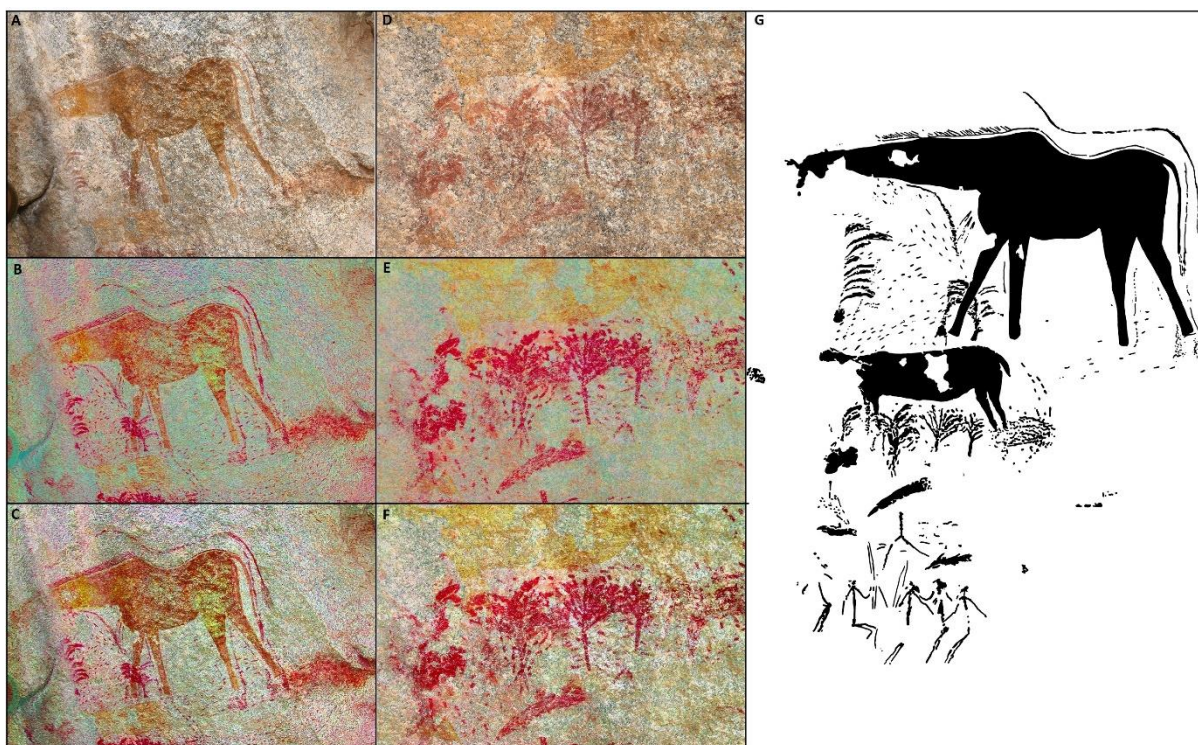
Bambata 1, Matobo. A) Photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); B) Redrawing by author from A; C) Photograph (SARADA. ZIM BMT1 85); D) Redrawing by author of tree motif from C.



Gulumbezhe, Umzingwane. A) Photograph (SARADA. ZIM GUL1 70); B) Redrawing (Siyakha Mguni, RARI Archives); C) Photograph (M.L. Daneel, 2014); D) Redrawing (Siyakha Mguni, RARI Archives); E) Photograph (Jeremy Hollmann).



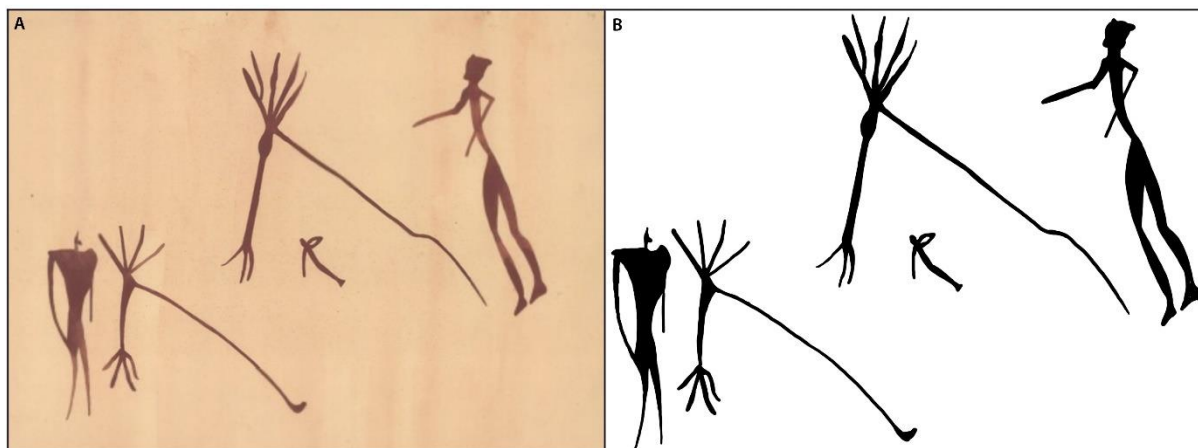
Gulubahwe 1, Umzingwane. A) Photograph (SARADA. ZIM GUU1 107); B) Photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); C) Redrawing by author from B.



Hazelside, Matobo. A & B) Photographs (Ian Withnall); B) A edited with DStretch_lre; C) A edited with DStretch_yrd; E) B edited with DStretch_lre; F) B edited with DStretch_yrd; G) Redrawing (Walker 1996: 28 fig. 33).



Imadzi, Matobo. Redrawing (Walker 1996: 63 fig. 73).



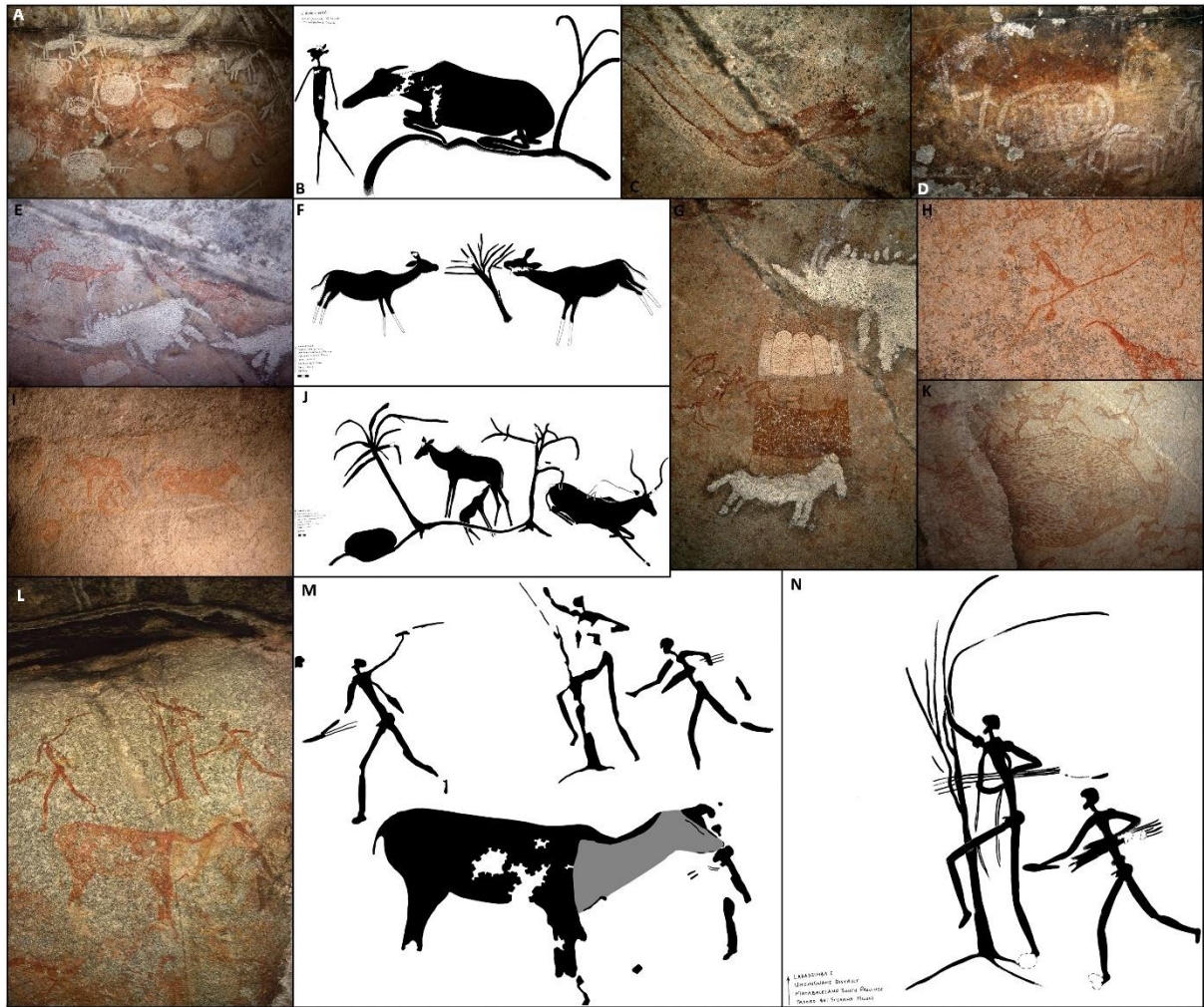
Isondela, Matobo. A) Historical copy (Frobenius, SARADA. IZI LVF 01 328HC); B) Redrawing by author from A.



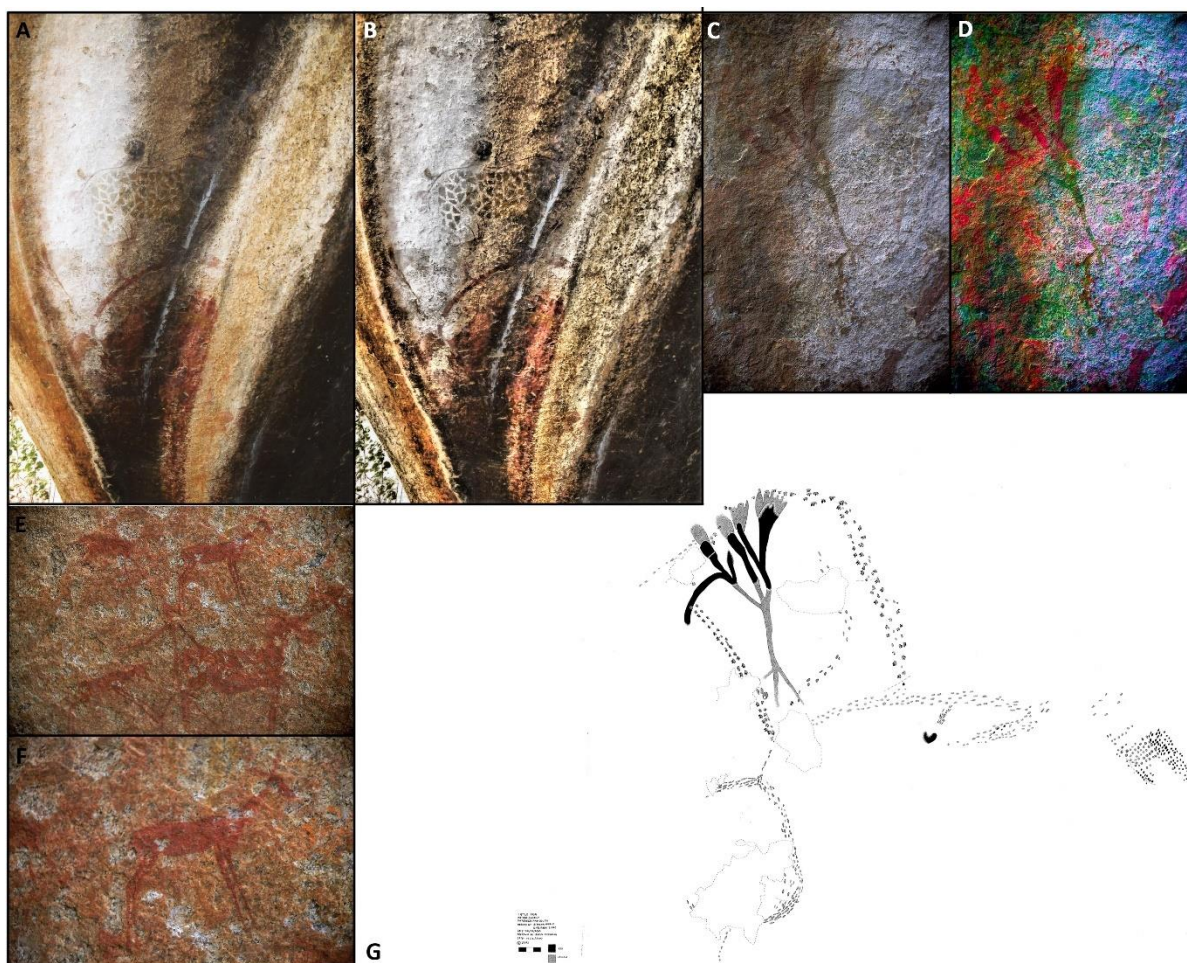
Isotja cave, Matobo. A) Historical copy (Goodall 1959 plate 77); B) Redrawing by author from D; C) Photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); D) Historical copy (Frobenius, SARADA. IZI LVF 01 63HC).



Kudale 2, Matobo. A) Photograph (SARADA. ZIM KUD2 17); B) Redrawing (Siyakha Mguni, RARI Archives).



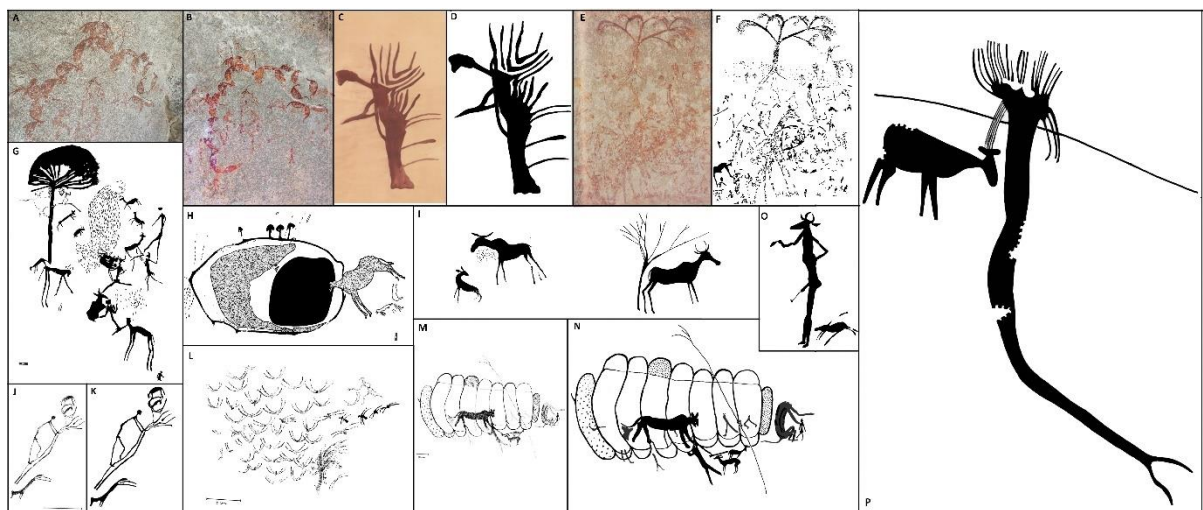
Amadzimba 1, Umzingwane. A, C, D, G, & K) Photographs (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); B, F, J, & N) Redrawings (Siyakha Mguni, RARI Archives); E) Photograph (SARADA. ZIM LAA1 109); I) Photograph (SARADA. ZIM LAA1 118); L) Photograph (SARADA. ZIM LAA1 131); M) Redrawing by author from L.



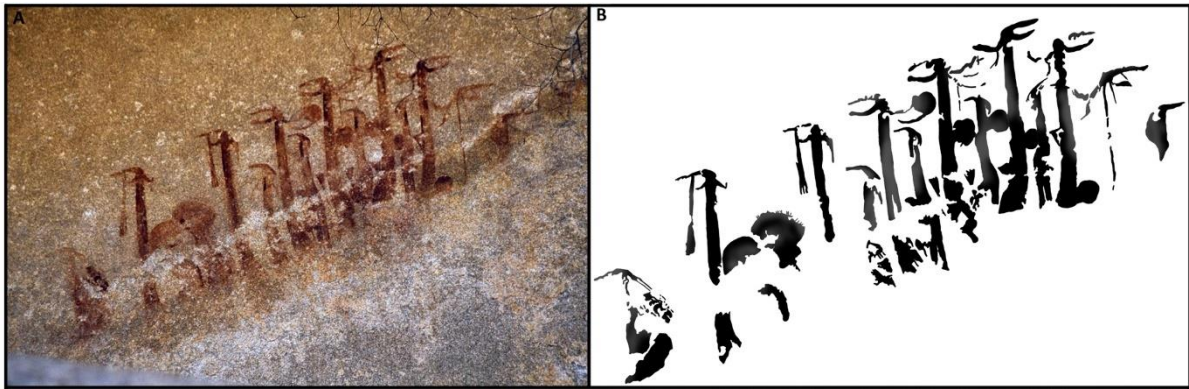
Little Efifi, Matobo. A) Photograph (M.L. Daneel, 2014); B) A edited with ImageJ auto-contrast; C) Photograph (SARADA. RARI ZIM LIE1 12); E) Photograph (SARADA. RARI ZIM LIE1 6); F) Photograph (SARADA. RARI ZIM LIE1 7); D) C edited with DStretch_lab; G) Redrawing (Siyakha Mguni, RARI Archives).



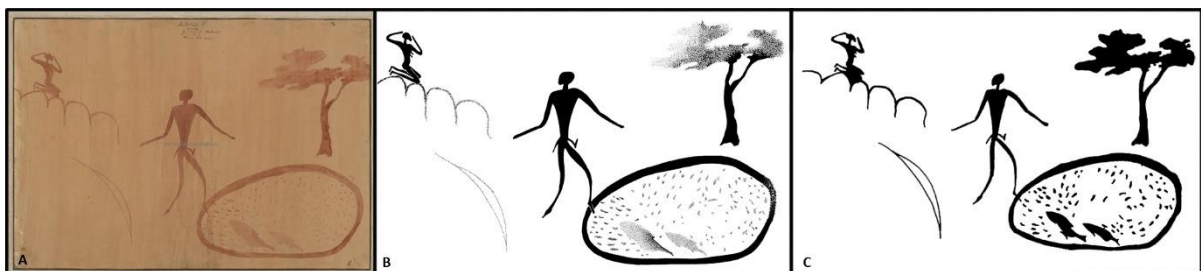
Maholoholo, Matobo. A-E) Photographs (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA); F) Photograph (SARADA. ZIM MAO1 10); H) Photograph (SARADA. ZIM MAO1 7); G) Redrawing by author from F.



Matobo. A) Photograph (Jeremy Hollmann); B) A edited with DStretch auto-contrast; C) Historical copy (Frobenius, SARADA. IZI LVF 01 329HC); D) Redrawing by author from C; E) Photograph (Walker 1996: 38 Slide 40); F) Redrawing by author from E; G, H, J, L, M, & P) Redrawings (Siyakha Mguni, RARI Archives); I) Redrawing (Walker 1996: 21 fig. 29); K) Redrawing by author from J; N) Redrawing by author modified from M; O) Redrawing (Garlake 1995: 133 fig. 159).



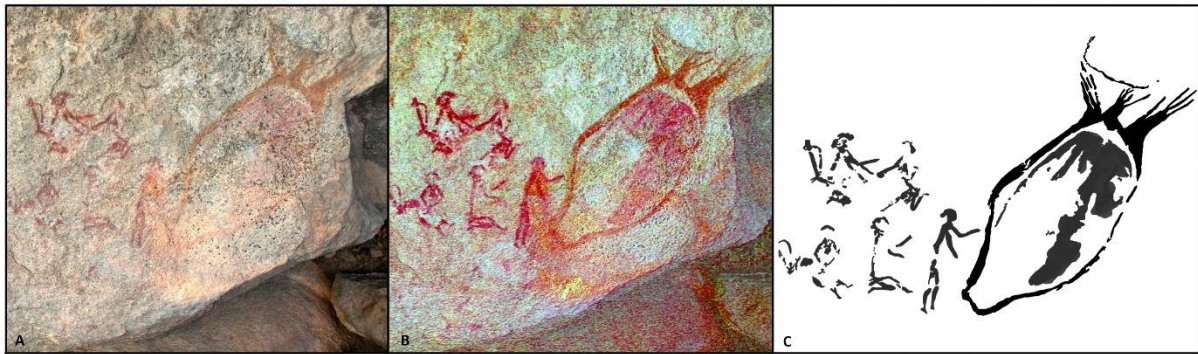
Matobo Hills. A) Photograph (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA); B) Redrawing by author from A.



Mtsheleli, Matobo. A) Historical copy (FBA-C 01421, © Frobenius Institute); B) Redrawing (Siyakha Mguni, RARI Archive); C) Redrawing (Gerharz 1983: 28).



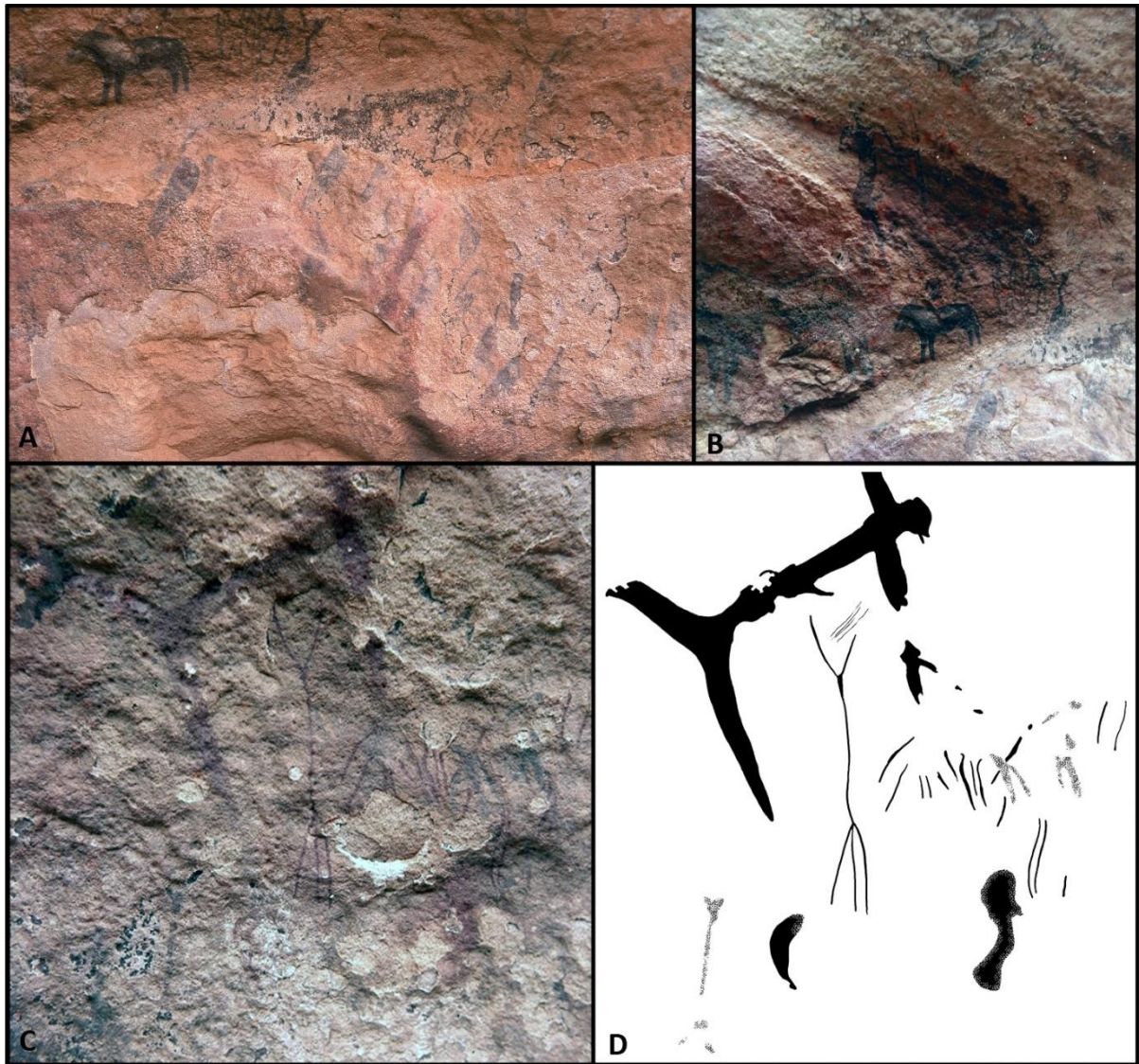
Nanke Cave 1, Matobo. A) Historical copy (FBA-D3 01532, © Frobenius Institute); B) Photograph (Jeremy Hollmann); C) Photograph (SARADA. IZI ZIM NAK1 4); D & L) Photograph (Nicole Calame-Darbellay); E) Redrawing by author from D; F, G, & J) Photographs (Courtesy of the Trustees of the British Museum. Copyright David Coulson/TARA.); G) Redrawing by author from F; I) Redrawing by author from H; K) Redrawing (Walker 1996 fig. 91); M) Redrawing by author from L.



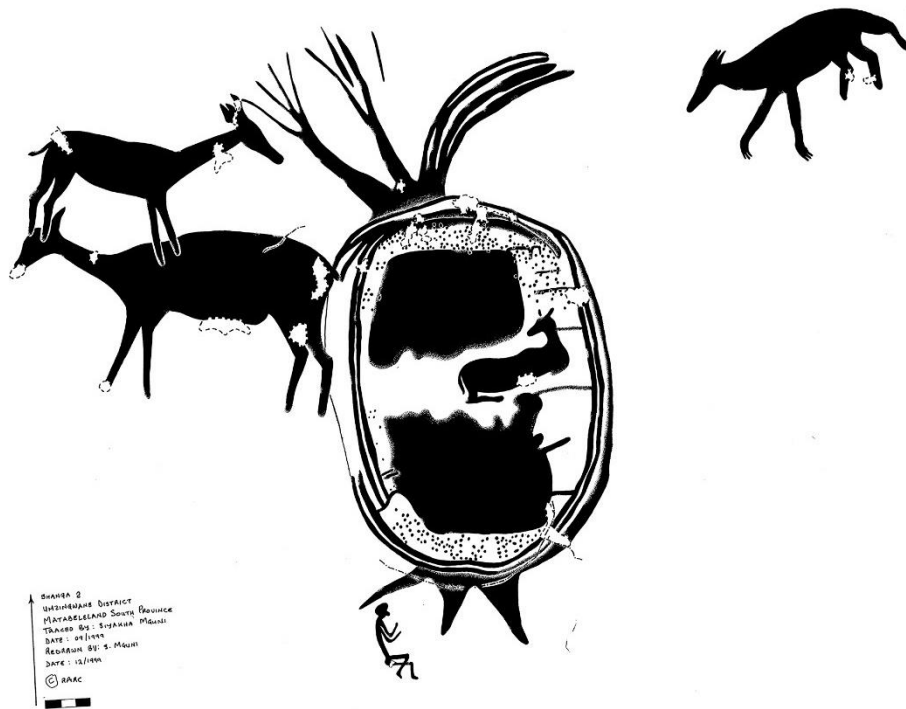
Nanke Cave 2, Matobo. A) Photograph (Nicole Calame-Darbellay); B) A edited with DStretch_yrd; C) Redrawing by author from A.



Nswatugi Cave, Matobo. A) Photograph (SARADA. ZIM NSW1 2); B) Photograph (SARADA. ZIM NSW1 15); C) Historical copy (Goodall 1959 plate 74); D) Historical copy (Goodall 1959 plate 73); E) Redrawing by author from D.



Sentinel 5, Beitbridge. A) Photograph (SARADA. NASMUS ZIM SEN5 11); B) Photograph (SARADA. RARI ARW ZIM SEN5 3H); C) Photograph (SARADA. RARI ARW ZIM SEN5 1H); D) Redrawing by author from C.



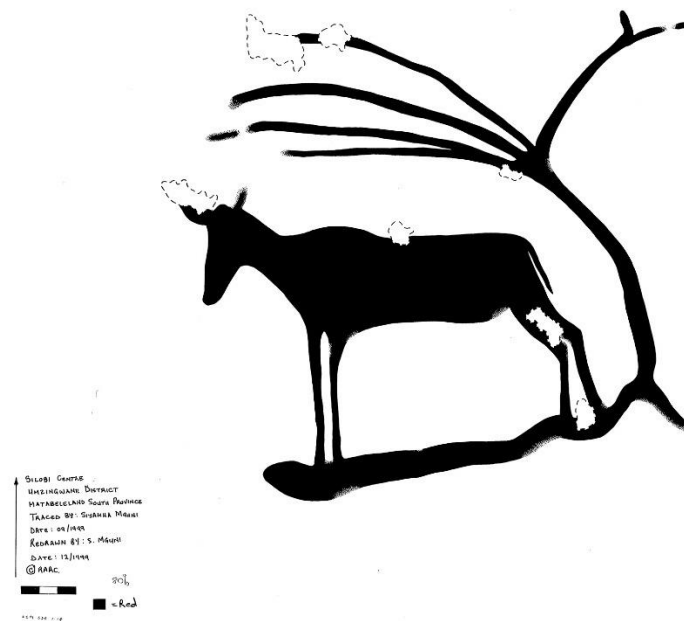
Shanga 2, Umzingwane. Redrawing (Siyakha Mguni, RARI Archive).



Shumbashaba, Umzingwane. A) Photograph (SARADA. ZIM SHU1 5); B) Photograph (SARADA. ZIM SHU1 7); C) Photograph (SARADA. ZIM SHU1 3); E) Photograph (SARADA. ZIM SHU1 10); D & F) Redrawings (Siyakha Mguni, RARI Archive).



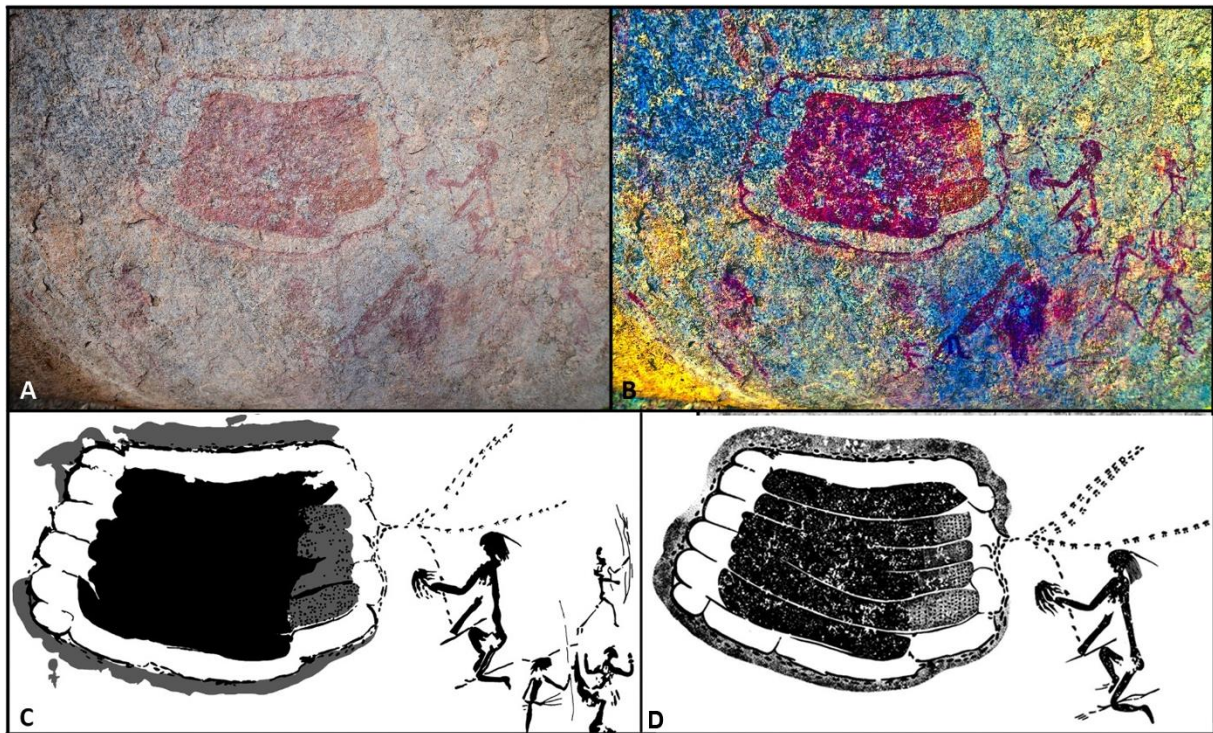
Shumbashawa, Matobo. A) Historical copy (Frobenius, SARADA. IZI LVF 01 276HC); B) Redrawing by author from A; C) Historical copy (Frobenius, SARADA. IZI LVF 01 327HC); D) Redrawing by author from C.



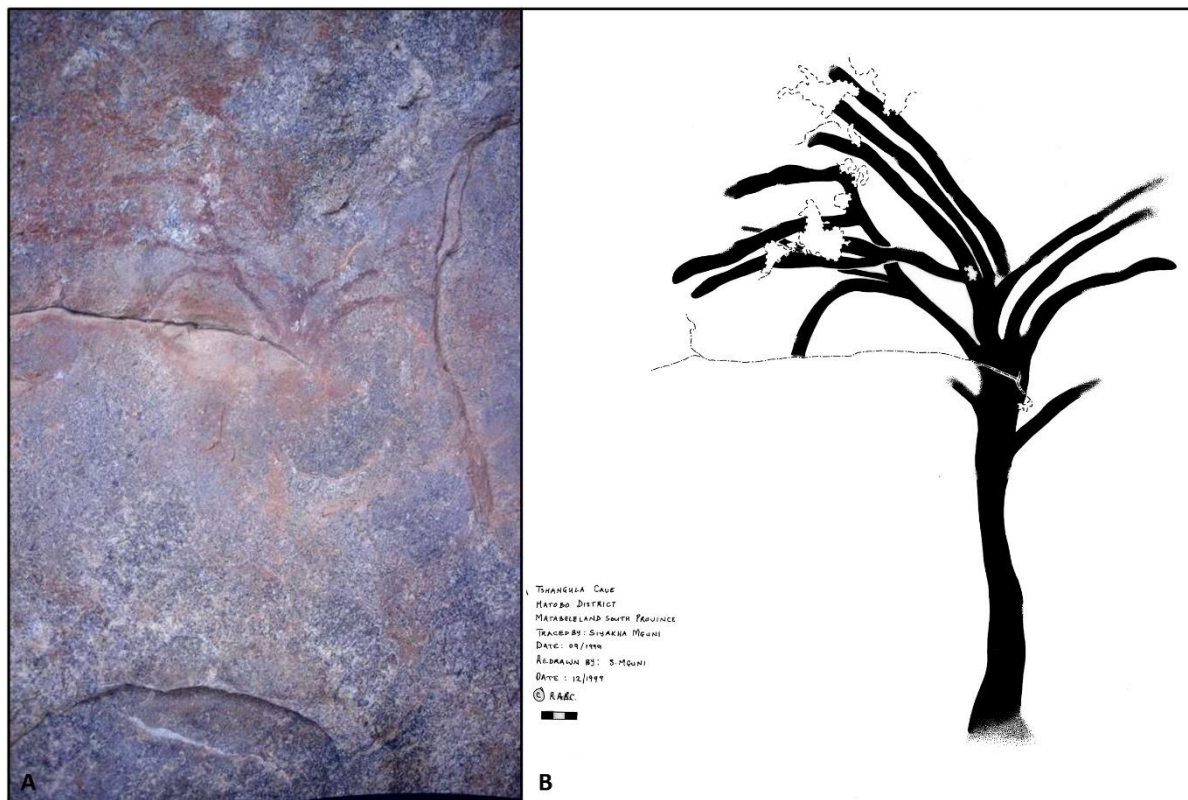
Silobi, Matobo. Redrawing (Siyakha Mguni, RARI Archive)



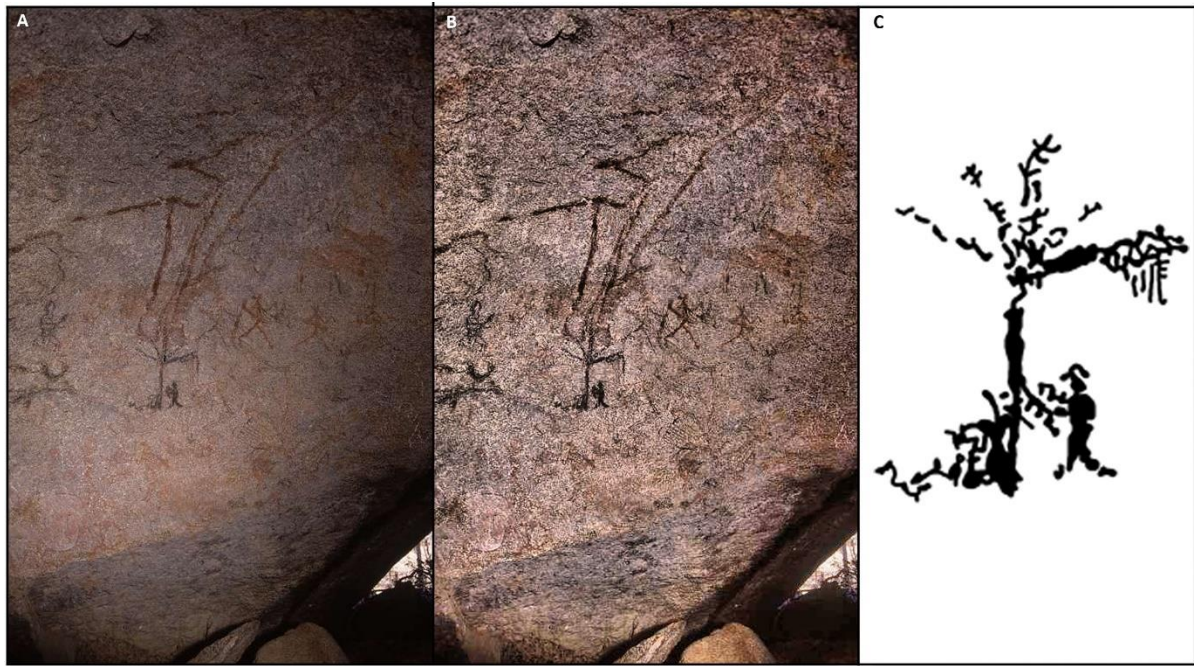
Silozwane, Matobo. A) Photograph (SARADA. SMT ZIM SIL1 35); B) Photograph (SARADA.); C) Photograph (SARADA. SMT ZIM SIL1 22); E) Photograph (SARADA. ZIM SIL1 66); F) Photograph (SARADA. ZIM SIL1 77); H) Photograph (SARADA. ZIM SIL1 35); I) Photograph (Lyle Tatum); D) Redrawing by author from C; G) Redrawing (Walker 1996: 38 fig. 92).



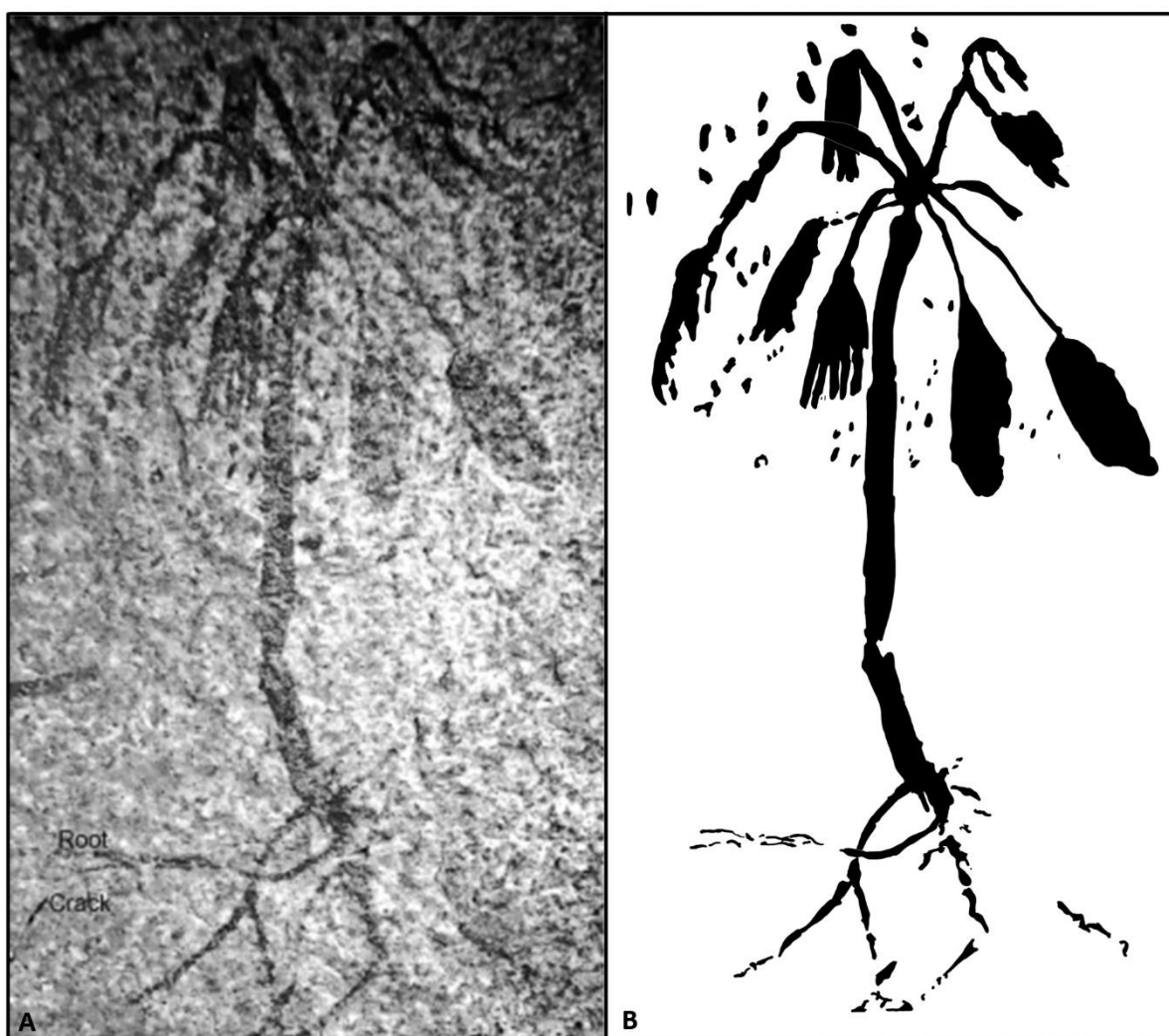
Toghwana Dam, Matobo. A) Photograph (Jeremy Hollmann); B) A edited with DStretch_lds; C) Redrawing by author from A; D) Redrawing (Pager 1973 fig. 5 in Mguni 2015: 27 fig. 14).



Tshangula Cave I, Matobo. A) Photograph (SARADA. ZIM TSC1 9); B) Redrawing by author (Siyakha Mguni).

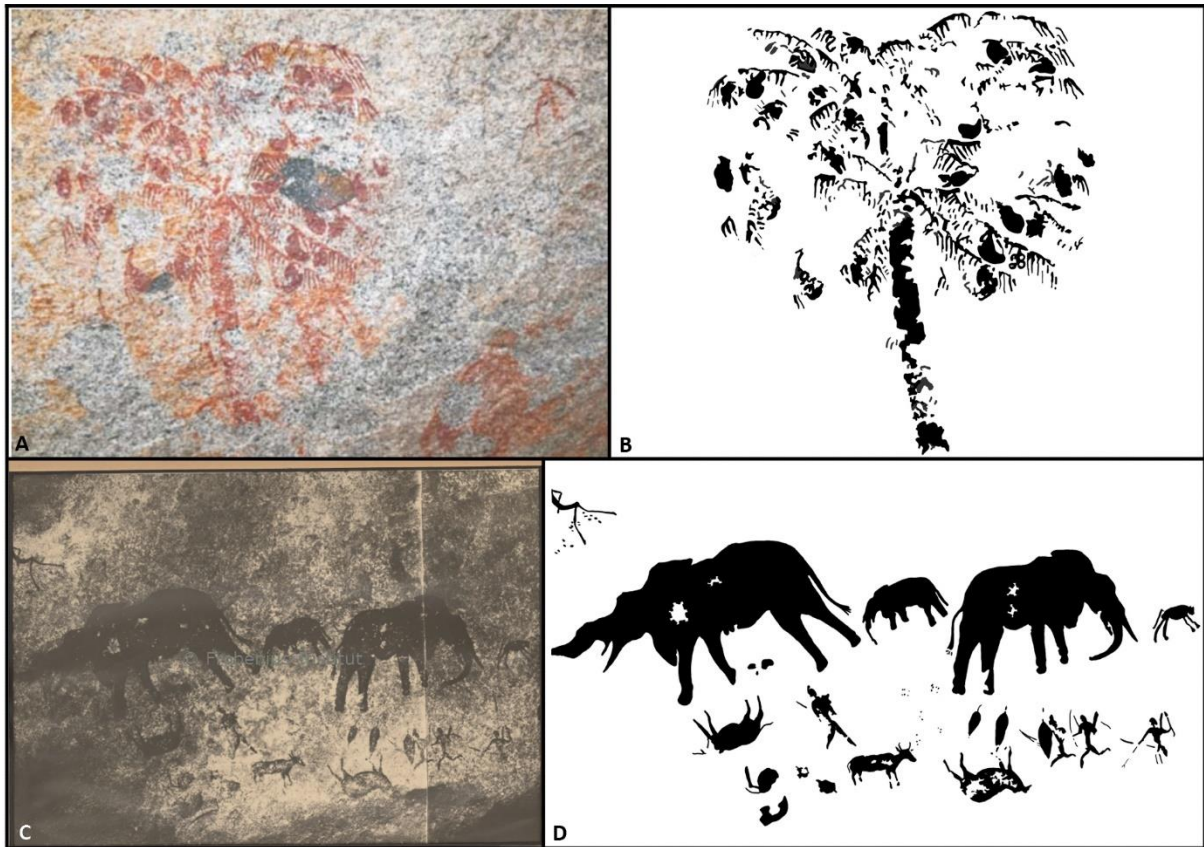


White Waters School 1. Matobo. A) Photograph (SARADA. ZIM WHS1 1); B) A edited with Adobe Photoshop auto-contrast; C) Redrawing by author of isolated figures from A.

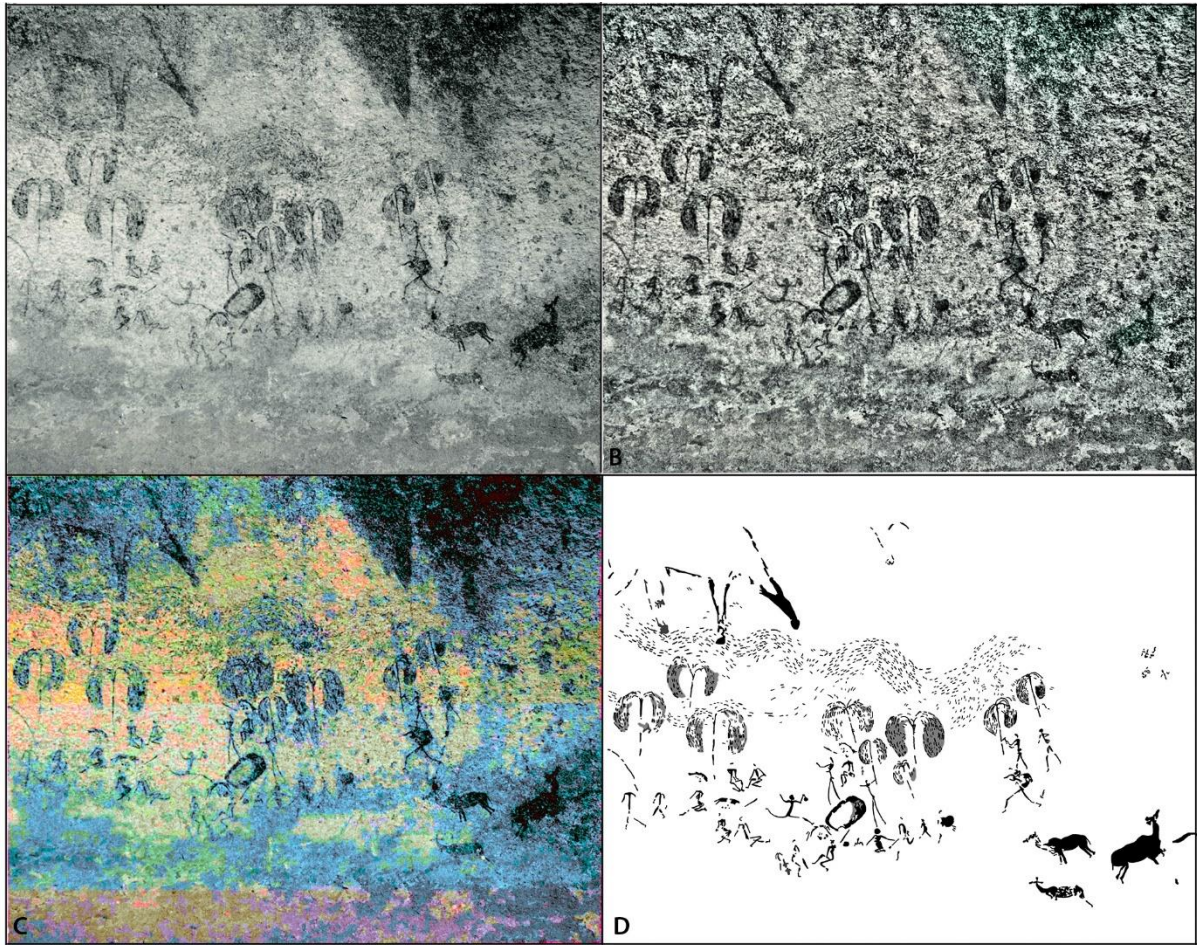


Matabeleland South, Exact location unspecified. A) Photograph (Mguni 2009: 142 fig. 3); B) Redrawing by author from A.

Zimbabwe (Exact locations not specified from sources)



Zimbabwe. A) Photograph (Hubbard 2013: 17 fig. 5); B) Redrawing by author from A; C) Photograph (FBA-B 01668, © Frobenius Institute); D) Redrawing by author from C.



Zimbabwe *continued*. A) Photograph (Woodhouse 1980: 35 fig. 18); B) A edited with ImageJ auto-contrast; C) A edited with DStretch_lab_ac; D) Redrawing by author from A.

APPENDIX B

Table 1. Frequency of association between motifs discussed in Chapter 6 and botanical motifs. Botanical motif type shown at the top and associated motifs on the left. The value is the number of times these motifs types occur together out of the total number of sites with those botanical motifs present.

		Bare	Solid	Lobed	Fron	Flecked canopy	Fruit bearing	Uncategorised	Trees	USOs
Flecks	Value	7/28	3/12	10/17	16/23	2/4	3/7	0/1	27/68	10/23
	Percentage	25%	25%	59%	70%	50%	43%	0%	40%	43%
Formlings	Value	13/28	3/12	6/17	9/23	1/4	4/7	1/1	24/68	11/23
	Percentage	46%	25%	35%	39%	25%	57%	100%	35%	48%
Tsessebe	Value	7/28	2/12	5/17	7/23	2/4	2/7	1/1	16/68	10/23
	Percentage	25%	17%	29%	30%	50%	29%	100%	24%	43%
Roan & sable	Value	5/28	2/12	3/17	6/23	1/4	1/7	1/1	13/68	11/23
	Percentage	18%	17%	18%	26%	25%	14%	100%	19%	48%
Warthogs	Value	4/28	1/12	2/17	8/23	1/4	2/7	1/1	11/68	11/23
	Percentage	14%	8%	12%	35%	25%	29%	100%	16%	48%
Kudu	Value	11/28	4/12	5/17	9/23	2/4	2/7	1/1	22/68	13/23
	Percentage	39%	33%	29%	39%	50%	29%	100%	32%	57%
Women	Value	11/28	6/12	9/17	12/23	2/4	4/7	1/1	29/68	15/23
	Percentage	39%	50%	53%	52%	50%	57%	100%	43%	65%
Men	Value	18/28	7/12	10/17	15/23	3/4	6/7	1/1	43/68	18/23
	Percentage	64%	58%	59%	65%	75%	86%	100%	63%	78%
Birds	Value	3/28	0/12	1/17	2/23	0/4	0/7	0/1	4/68	4/23
	Percentage	11%	0%	6%	9%	0%	0%	0%	6%	17%
Rain animals	Value	5/28	3/12	3/17	6/23	2/4	2/7	1/1	14/68	6/23
	Percentage	18%	25%	18%	26%	50%	29%	100%	21%	26%
USOs	Value	5/28	1/12	3/17	8/23	1/4	2/7	1/1	12/68	x
	Percentage	18%	8%	18%	35%	25%	29%	100%	18%	x
Giraffe	Value	8/28	1/12	3/17	3/23	0/4	0/7	0/1	14/68	3/23
	Percentage	29%	8%	18%	13%	0%	0%	0%	21%	13%
Elephant	Value	7/28	3/12	5/17	8/23	3/4	2/7	1/1	18/68	10/23
	Percentage	25%	25%	29%	35%	75%	29%	100%	26%	43%
Climbing trees	Value	5/28	0/12	0/17	2/23	0/5	0/7	0/1	6/68	2/23
	Percentage	18%	0%	0%	9%	0%	0%	0%	9%	9%